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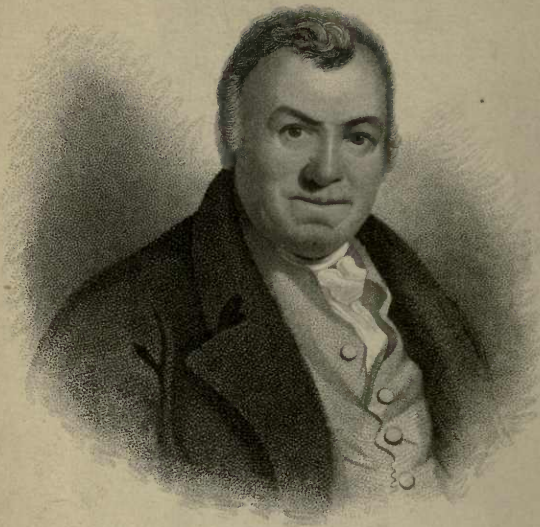

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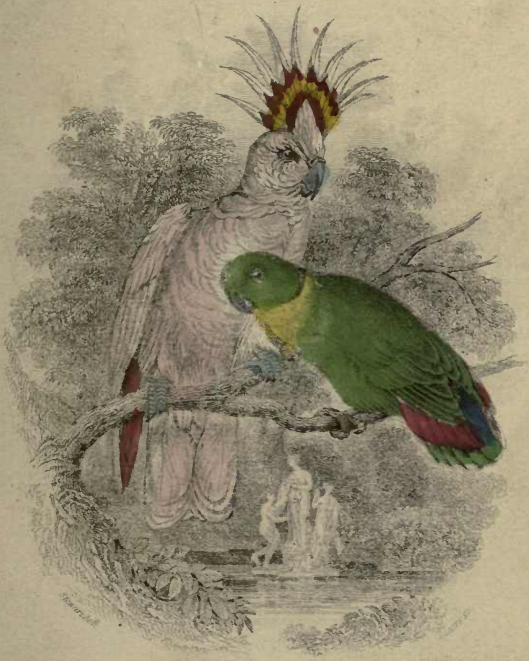

Crested Cockatoo Love Bird.

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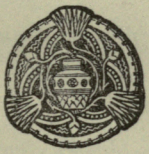

Ornithology.

PARROTS.

BY PRIDEAUX JOHN SELBY, ESQ.,

F.R.S.E., F.L.S., M.W.S., ETC.

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PORTRAIT OF THOMAS BEWICK 2
Vignette Title-page.

In all Thirty-two Plates in this Volume.

MEMOIR

OF

THOMAS BEWICK

MEMOIR

OF

THOMAS BEWICK,

EMINENT ENGRAVER ON WOOD.

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ALTHOUGH the Biographical Notices prefixed to these volumes have hitherto been confined to Scientific Naturalists, yet, as no one perhaps has contributed more essentially to promote the study of Zoology, in two of its most important branches, than the ingenious Artist whose name stands at the head of this article, it appears no more than an act of justice to offer, in this way, a respectful tribute to his memory.

Though the art of cutting or engraving on wood is undoubtedly of high antiquity, as the Chinese and Indian modes of printing on paper, cotton, and silk, sufficiently prove; though, even in Europe, the art

of engraving on blocks of wood may probably be traced higher than that of printing usually so called and though, in the fifteenth and sixteenth centuries, designs were executed of great beauty and accuracy, such as Holbein's "Dance of Death," the vignettes and head-letters of the early Missals and Bibles, and the engravings of flowers and shells in Gerard, Gesner, and Fuhschius; yet the bare inspection of these is sufficient to prove that their methods must have been very different from that which Bewick and his school have followed. The principal characteristic of the ancient masters is the crossing of the black lines, to produce or deepen the shade, commonly called *cross-hatching*. Whether this was done by employing different blocks, one after another, as in calico-printing and paper-staining, it may be difficult to say; but to produce them on the same block is so difficult and unnatural, that, though Nesbit, one of Bewick's early pupils, attempted it on a few occasions, and the splendid print of Dentatus by Harvey shews that it is not impossible even on a large scale, yet the waste of time and labour is scarcely worth the effect produced.

To understand this, it may be necessary to state, for the information of those who may not have seen an engraved block of wood, that whereas the lines

which are sunk by the graver on the surface of a copper-plate are the parts which receive the printing ink, which is first smeared over the whole plate, and the superfluous ink is scraped and rubbed off, that remaining in the lines being thus transferred upon the paper, by its being passed, together with the plate, through a rolling-press, the rest being left white—in the wooden block, all the parts which are intended to leave the paper white, are carefully scooped out with burins and gouges, and the lines and other parts of the surface of the block which are left prominent, after being inked, like types, with a ball or roller, are transferred to the paper by the common printing-press. The difficulty, therefore, of picking out, upon the wooden block, the minute squares or lozenges, which are formed by the mere intersection of the lines cut in the copper-plate, may easily be conceived.

The great advantage of wood-engraving is, that the thickness of the blocks (which are generally of boxwood, sawed across the grain) being carefully regulated by the height of the types with which they are to be used, are set up in the same page with the types; and only one operation is required to print the letter-press and the cut which is to illustrate it. The greater permanency, and indeed

almost indestructibility,* of the wooden block, is besides secured; since it is not subjected to the scraping and rubbing, which so soon destroys the sharpness of the lines upon copper: and there is a harmony produced in the page, by the engraving and the letter-press being of the same colour; which is very seldom the case where copper-plate vignettes are introduced with letter-press.

It is difficult, perhaps impossible, to trace the history of wood-engraving, its early principles, the causes of its decay, &c., till its productions came to sink below contempt. But for its revival and present state we are unquestionably indebted to Bewick and his pupils.

THOMAS BEWICK was born August 12. 1753, at Cherry-Burn, in the parish of Ovingham, and county of Northumberland. His father, John Bewick, had for many years a landsale colliery at Mickley-Bank, now in the possession of his son William. John Bewick, Thomas's younger brother, and coad-

* Many of Mr Bewick's blocks have printed upwards of 300,000: the head-piece of the Newcastle Courant above a million; and a small vignette for a capital letter in the Newcastle Chronicle, during a period of twenty years, at least two millions.

jutor with him in many of his works, was born in 1760—unfortunately for the arts and for society, of which he was an ornament, died of a consumption, at the age of thirty-five.

The early propensity of Thomas to observe natural objects, and particularly the manners and habits of animals, and to endeavour to express them by drawing, in which, without tuition, he manifested great proficiency at an early age, determined his friends as to the choice of a profession for him. He was bound apprentice, at the age of fourteen, to Mr Ralph Beilby of Newcastle, a respectable copper-plate engraver, and very estimable man.* Mr Bewick might have had a master of greater eminence, but he could not have had one more anxious to encourage the rising talents of his pupil, to point out to

* It is stated by the author of "The Pursuit of Knowledge under Difficulties," forming a part of the Library of Entertaining Knowledge (we know not on what authority, but we think it probable,) that he was in the habit of exercising his genius by covering the walls and doors of his native village with sketches in chalk of his favourites of the lower creation with great accuracy and spirit; and that some of these performances chancing to attract Mr Beilby's notice, as he was passing through Cherry-Burn, he was so much struck with the talent which they displayed, that he immediately sought out the young artist, and obtained his father's permission to take him with him as his apprentice.

him his peculiar line of excellence, and to enjoy without jealousy his merit and success, even when it appeared, in some respects, to throw himself into the shade. When Mr Charles Hutton, afterwards the eminent Professor Hutton of Woolwich, but then a schoolmaster in Newcastle, was preparing, in 1770, his great work on Mensuration, he applied to Mr Beilby to engrave on copper-plates the mathematical figures for the work. Mr Beilby judiciously advised that they should be cut on wood, in which case, each might accompany, on the same page, the proposition it was intended to illustrate. He employed his young apprentice to execute many of these; and the beauty and accuracy with which they were finished, led Mr Beilby to advise him strongly to devote his chief attention to the improvement of this long-lost art. Several mathematical works were supplied, about this time, with very beautiful diagrams; particularly Dr Enfield's translation of Rossignol's Elements of Geometry.

On the expiration of his apprenticeship, he visited the metropolis for a few months, and was, during this short period, employed by an engraver in the vicinity of Hatton-Garden. But London, with all its gaieties and temptations, had no attractions for Bewick: he panted for the enjoyment of his native

air, and for indulgence in his accustomed rural habits. On his return to the North, he spent a short time in Scotland, and afterwards became his old master's partner, while John, his brother, was taken as their joint-apprentice.

About this time, Mr Thomas Saint, the printer of the Newcastle Courant, projected an edition of Gay's Fables, and the Bewicks were engaged to furnish the cuts. One of these, "The Old Hound," obtained the premium of the Society of Arts, for the best specimen of wood-engraving, in 1775. An impression of this may be seen in the Memoir prefixed to "Select Fables," printed for Charnley, Newcastle, in 1820; from which many notices in the present Memoir are taken. Mr Saint, in 1776, published also a work entitled, Select Fables, with an indifferent set of cuts, probably by some inferior artist; but in 1779 came out a new edition of Gay, and, in 1784, of the Select Fables, with an entire new set of cuts, by the Bewicks.

It has been already said, that Thomas Bewick, from his earliest youth, was a close observer and accurate delineator of the forms and habits of animals; and, during his apprenticeship, and indeed throughout his whole life, he neglected no opportunity of visiting and drawing such foreign animals as were

exhibited in the different itinerant collections which occasionally visited Newcastle. This led to the project of the "History of Quadrupeds;" a Prospectus of which work, accompanied by specimens of several of the best cuts then engraved, was printed and circulated in 1787; but it was not till 1790 that the work appeared.

In the mean time, the Prospectus had the effect of introducing the spirited undertaker to the notice of many ardent cultivators of natural science, particularly of Marmaduke Tunstall, Esq. of Wycliffe, whose museum was even then remarkable for the extent of its treasures, and for the skill with which they had been preserved; whose collection also of living animals, both winged and quadruped, was very considerable. Mr Bewick was invited to visit Wycliffe, and made drawings of various specimens, living and dead, which contributed greatly to enrich his subsequent publications. The portraits which he took with him of the wild cattle in Chillingham Park, the seat of the Earl of Tankerville (whose agent, Mr John Bailey, was also an eminent naturalist, and very intimate friend of Mr Bewick), particularly attracted Mr Tunstall's attention; and he was very urgent to obtain a representation, upon a larger scale than was contemplated for his projected work, of

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those now *unique* specimens of the "ancient Caledonian breed." For this purpose, Mr Bewick made a special visit to Chillingham, and the result was the largest wood-cut he ever engraved; which, though it is considered as his *chef d'œuvre*, seemed, in its consequences, to shew the limits within which wood-engraving should generally be confined. The block, after a few impressions had been taken off, split into several pieces, and remained so till, in the year 1817, the richly figured border having been removed, the pieces containing the figure of the wild bull were so firmly clamped together, as to bear the force of the press; and impressions may still be had. A few proof-impressions on thin vellum of the original block, with the figured border, have sold as high as twenty guineas.

As it obviously required much time, as well as labour, to collect, from various quarters, the materials for a "General History of Quadrupeds," it is evident that much must have been done in other ways, in the regular course of ordinary business. In a country engraver's office, much of this requires no record; but, during this interval, three works on copper seem to have been executed, chiefly by Mr Thomas Bewick. A small quarto volume, entitled, "A Tour through Sweden, Lapland, &c., by Matthew

Consett. Esq., accompanied by Sir G. H. Liddell, was illustrated with engravings by Beilby and Bewick, the latter executing all those relating to natural history, particularly the rein-deer and their Lapland keepers, brought over by Sir H. Liddell, whom he had thus the unexpected opportunity of delineating from the life. During this interval, he also drew and engraved on copper, at the expense of their respective proprietors, "The Whitley large Ox," belonging to Mr Edward Hall, the four quarters of which weighed 187 stone; and "The remarkable Kyloe Ox," bred in Mull by Donald Campbell, Esq. and fed by Mr Robert Spearman of Rothley Park, Northumberland. This latter is a very curious specimen of copper-plate engraving, combining the styles of wood and copper, particularly in the minute manner in which the verdure is executed.

At length appeared "The General History of Quadrupeds," a work uncommonly well received by the public, and ever since held in increased estimation. Perhaps there never was a work to which the rising generation of the day was, and no doubt that for many years to come will be, under such obligations, for exciting in them a taste for the natural history of animals. The representations which are given of the various tribes, possess a boldness of de-

sign, a correctness of outline, an exactness of attitude, and a discrimination of general character, which convey, at the first glance, a just and lively idea of each different animal. The figures were accompanied by a clear and concise statement of the nature, habits, and disposition of each animal: these were chiefly drawn up by his able coadjutors, Mr Beilby, his partner, and his printer Mr Solomon Hodgson; subject, no doubt, to the corrections and additions of Mr Bewick. In drawing up these descriptions, it was the endeavour of the publishers to lay before their readers a particular account of the quadrupeds of our own country, especially of those which have so materially contributed to its strength, prosperity, and happiness, and to notice the improvements which an enlarged system of agriculture, supported by a noble spirit of generous emulation, has diffused throughout the country.

But the great and, to the public in general, unexpected, charm of the History of Quadrupeds, was the number and variety of the vignettes and tail-pieces, with which the whole volume is embellished. Many of these are connected with the manners and habits of the animals near which they are placed; others are, in some other way, connected with them, as being intended to convey to those who avail them-

selves of their labours, some salutary moral lesson, as to their humane treatment; or to expose, by perhaps the most cutting possible satire, the cruelty of those who ill-treat them. But a great proportion of them express, in a way of dry humour peculiar to himself, the artist's particular notions of men and things, the passing events of the day, &c. &c.; and exhibit often such ludicrous, and, in a few instances, such serious and even awful, combinations of ideas, as could not perhaps have been developed so forcibly in any other way.

From the moment of the publication of this volume, the fame of Thomas Bewick was established on a foundation not to be shaken. It has passed through seven large editions, with continually growing improvements.

It was observed before, that Mr Bewick's younger brother, John, was apprenticed to Mr Beilby and himself. He naturally followed the line of engraving so successfully struck out by his brother. At the close of his apprenticeship, he removed to London, where he soon became very eminent as a wood-engraver; indeed, in some respects, he might be said to excel the elder Bewick. This naturally induced Mr William Bulmer, the spirited proprietor of the "Shakspeare Press," himself a Newcastle

man, to conceive the desire of giving to the world a complete specimen of the improved arts of type and block-printing; and for this purpose he engaged the Messrs Bewicks, two of his earliest acquaintances, to engrave a set of cuts to embellish the poems of Goldsmith, The Traveller and Deserted Village, and Parnell's Hermit. These appeared in 1795, in a royal quarto volume, and attracted a great share of public attention, from the beauty of the printing and the novelty of the embellishments, which were executed with the greatest care and skill, after designs made from the most interesting passages of the poems, and were universally allowed to exceed every thing of the kind that had been produced before. Indeed, it was conceived almost impossible that such delicate effects could be obtained from blocks of wood; and it is said that his late Majesty (George III.) entertained so great a doubt upon the subject, that he ordered his bookseller, Mr G. Nicol, to procure the blocks from Mr Bulmer, that he might convince himself of the fact.

The success of this volume induced Mr Bulmer to print, in the same way, Somerville's Chase. The subjects which ornament this work being entirely composed of landscape scenery and animals, were peculiarly adapted to display the beauties of wood-

engraving. Unfortunately for the arts, it was the last work of the younger Bewick, who died at the close of 1795, of a pulmonary complaint, probably contracted by too great application. He is justly described in the monumental inscription in Ovingham church-yard, as "only excelled as to his ingenuity as an artist by his conduct as a man." Previously, however, to his death, he had drawn the whole of the designs for the Chase on the blocks, except one; and the whole were beautifully engraved by his brother Thomas.

In 1797, Messrs Beilby and Bewick published the first volume of the "History of British Birds," comprising the land-birds. This work contains an account of the various feathered tribes, either constantly residing in, or occasionally visiting, our islands. While Bewick was engraving the cuts (almost all faithfully delineated from nature), Mr Beilby was engaged in furnishing the written descriptions. Some unlucky misunderstandings having arisen about the appropriation of this part of the work, a separation of interests took place between the parties, and the compilation and completion of the second volume, Water-birds," devolved on Mr Bewick alone—subject, however, to the literary corrections of the Rev. Henry Cotes, Vicar of Bedlington. In the

whole of this work, the drawings are minutely accurate, and express the natural delicacy of feather, down, and accompanying foliage, in a manner particularly happy. And the variety of vignettes and tail-pieces, and the genius and humour displayed in the whole of them (illustrating, besides, in a manner never before attempted, the habits of the birds), stamps a value on the work superior to the former publication on Quadrupeds.* This also has passed

* "Of Bewick's powers, the most extraordinary is the perfect accuracy with which he seizes and transfers to paper the natural objects which it is his delight to draw. His landscapes are absolute *fac-similes;* his animals are whole-length portraits. Other books on natural history have fine engravings; but still, neither beast nor bird in them have any character; dogs and deer, lark and sparrow, have all airs and countenances marvellously insipid, and of a most flat similitude. You may buy dear books, but if you want to know what a bird or quadruped *is*, to Bewick you must go at last. It needs only to glance at the works of Bewick, to convince ourselves with what wonderful felicity the very countenance and air of his animals are marked and distinguished. There is the grave owl, the silly wavering lapwing, the pert jay, the impudent over-fed sparrow, the airy lark, the sleepy-headed gourmand duck, the restless titmouse, the insignificant wren, the clean harmless gull, the keen rapacious kite—every one has his character."

"His vignettes are just as remarkable. Take his British Birds, and in the tail-pieces to these volumes you shall find the most touching representations of Nature in all her forms, animate and inanimate. There are the poachers tracking a hare in the snow; and the urchins who have accomplished the creation of a "snow-man;" the disap-

through many editions, with and without the letter-press.

pointed beggar leaving the gate open for the pigs and poultry to march over the good dame's linen, which she is laying out to dry; the thief who sees devils in every bush—a sketch that Hogarth himself might envy; the strayed infant standing at the horse's heels, and pulling his tail, while the mother is in an agony flying over the style; the sportsman who has slipped into the torrent; the blind man and boy, unconscious of "Keep on this side;" and that best of burlesques on military pomp, the four urchins astride of gravestones for horses, the first blowing a glass trumpet, and the others bedizened in tatters, with rush-caps and wooden swords.

"Nor must we pass over his sea-side sketches, all inimitable. The cutter chasing the smuggler—is it not evident that they are going at the rate of at least ten knots an hour? The tired gulls sitting on the waves, every curled head of which seems big with mischief. What pruning of plumage, what stalkings, and flappings, and scratchings of the sand, are depicted in that collection of sea-birds on the shore! What desolation is there in that sketch of coast after a storm, with the solitary rock, the ebb-tide, the crab just venturing out, and the mast of the sunken vessel standing up through the treacherous waters! What truth and minute nature is in that tide coming in, each wave rolling higher than its predecessor, like a line of conquerors, and pouring in amidst the rocks with increased aggression! And, last and best, there are his fishing scenes. What angler's heart but beats whenever the pool-fisher, deep in the water, his rod bending almost double with the rush of some tremendous trout or heavy salmon? Who does not recognize his boyish days in the fellow with the "set rods," sheltering himself from the soaking rain behind an old tree? What fisher has not seen yon "old codger," sitting by the river side, peering over his tackle, and putting on a brandling?

Mr Bewick's next works were on a larger scale: four very spirited and accurate representations of a zebra, an elephant, a lion, and a tiger, from the collection and for the use of Mr Pidcock, the celebrated exhibitor of wild beasts. A few impressions were taken of each of these, which are now very scarce.

In 1818, he published a collection of Fables, en-

"Bewick's landscapes, too, are on the same principle with his animals: they are for the most part portraits, the result of the keenest and most accurate observation. You perceive every stone and bunch of grass has had actual existence: his moors are north-country moors, the progeny of Cheviot, Rimside, Simonside, or Carter. The tail-piece of the old man pointing out to his boy an ancient monumental stone, reminds one of the Millfield plain, or Flodden Field. Having only delineated that in which he himself has taken delight, we may deduce his character from his pictures: his heartfelt love of his native country, its scenery, its manners, its airs, its men and women; his propensity

> ..... by himself to wander
> Adown some trotting burn's meander,
> And no thinks lang:

his intense observation of nature and human life; his satirical and somewhat coarse humour; his fondness for maxims and old saws; his vein of worldly prudence now and then "cropping out," as the miners call it, into day-light; his passion for the sea-side, and his delight in "the angler' solitary trade:" All this, and more, the admirer of Bewick may deduce from his sketches."—*Blackwood's Magazine*, p. 2, 3.

titled, " The Fables of Æsop and others, with Designs by T. Bewick." This work has not, however, been received by the public with so much favour.

In 1820, Mr Emerson Charnley, bookseller in Newcastle, having purchased of Messrs Wilson o. York a large collection of wood-cuts, which had been engraved by the Bewicks in early life, for various works printed by Saint, conceived the design of employing them in the illustration of a volume of Select Fables (already referred to). Though aware that Mr Bewick wished it to be fully understood that he had no wish to " feed the whimsies of bibliomanists," as he himself expressed it, and perhaps was a little jealous of all the imperfections of his youth being set before the public, yet the Editor conceived that he was rendering to the curious in wood-engraving a very acceptable service, by thus rescuing from oblivion so many valuable specimens of the early talents of the revivors of this elegant art. They were thus enabled to study the gradual advance towards excellence of these ingenious artists, from their very earliest beginnings, and to trace the promise of talents at length so conspicuously developed.

Mr Bewick, however, was also engaged from time to time, by himself and his pupils, in furnishing em-

bellishments to various other works, which it is now impossible to particularize. One may be mentioned, Dr Thornton's "Medical Botany." But as he had himself no knowledge of this department of natural science, the cuts engraved for this work were merely servile copies of the drawings sent, executed with great exactness indeed, but not at all *con amore*. It is believed that the work itself obtained very little of the public attention.

Several of the later years of Mr Bewick's life were, in part at least, devoted to a work on British Fishes. A number of very accurate drawings were made by himself, and more by his son Robert, whose accuracy in delineation is perhaps equal to his father's. From twenty to thirty of these had been actually engraved, and a very large proportion (amounting to more than a hundred) of vignettes, consisting of river and coast scenery, the humours of fishermen and fishwomen, the exploits of birds of prey in fish-taking, &c. It was hoped that his son would have gone on with and completed the work, but in this the public have been disappointed; and now that Mr Yarrell's beautiful work is completed, it possibly might not answer.

Mr Bewick had a continued succession of pupils, many of whom have done the highest honour to their

preceptor; and some are carrying the art to a stage of advancement, at which he himself had the candour to acknowledge, on the inspection of Northcote's Fables, he had never conceived that it would arrive. It is almost needless to mention the names of Nesbit and Harvey. Others were cut off by death, or still more lamentable circumstances, who would otherwise have done great credit to their master; as Johnson, whose premature death occurred in Scotland, while copying some of the pictures of Lord Breadalbane, Clennel, Ranson—Hole, whose exquisite vignette in the title-page of Mr Shepherd's Poggio gave the highest promise, was stopped in a more agreeable way, by succeeding to a handsome fortune.

The last project of Mr Bewick was, to improve at once the taste and morals of the lower classes, particularly in the country, by a series of blocks on a large scale, to supersede the wretched, sometimes immoral, daubs with which the walls of cottages are too frequently clothed. A cut of an Old Horse, intended to head an Address on Cruelty to that noble animal, was his last production: the proof of it was brought to him from the press only three days before he died.

It may be observed, that, in the works of the early

masters, in the art of wood engraving, there was little more attempted than a bold outline. It remained for the burine of Bewick to produce a more complete and finished effect, by displaying a variety of tints, and producing a perspective, in a way that astonished even the copperplate engravers, by slightly lowering the surface of the block where the distance or lighter parts were to be shewn. This was first suggested by his early acquaintance Bulmer, who, during the period of their joint apprenticeship, invariably took off, at his master's office, proof-impressions of Bewick's blocks. He particularly printed for his friend the engraving of the Huntsman and Old Hound, which, as has been already observed, obtained for the young artist the premium from the Society of Arts.

Mr Bewick was in person robust, well formed and healthy. He was fond of early rising, walking, and indulging in all the rustic and athletic sports so prevalent in the north of England. Many portraits of him have been engraved and published; but the only full-length portrait of him was executed by Nicholson, and engraved by his pupil Ranson.* It

* Mr Audubon reminds me that there is another, and striking, full-length, by Mr Good, whose peculiar mode of throwing the light upon his portraits has been much

was afterwards proposed by a select number of his friends and admirers, to have a bust of him executed in marble, as a lasting memorial of the high regard they entertained for his genius and excellent character. The bust was executed by Baily with great fidelity and taste; and was presented, by the subscribers, to the Council and Members of the Literary and Philosophical Society of Newcastle, and now occupies a situation in the most prominent part of the spacious library-room of that useful Institution.

Many anecdotes are current among his friends concerning the occasions of many of his vignettes. Among others, one is told of a person, who had for many years supplied him with coals, being convicted of defrauding him in measure, on which occasion he sent him a letter of rebuke for his ingratitude and dishonesty. At the bottom of the letter, he sketched with his pen the figure of a man in a coal cart, accompanied by a representation of the devil close by his side, who is stopping the vehicle immediately under a gallows, beneath which was written, "*The end and punishment of all dishonest men.*" This well-timed satire so affected the nervous system of the poor delinquent,

and deservedly admired: it is in the possession of the family.

that he immediately confessed his guilt, and on his knees implored his pardon. This small sketch was afterwards adopted as a tail-piece, which may be seen in the first volume of the British Birds, p. 110.* (First Edition.)

Mr Bewick was a man of warm attachments, particularly to the younger branches of his family. It is known that, during his apprenticeship, he seldom failed to visit his parents once a week at Cherry-Burn, distant about fourteen miles from Newcastle; and when the Tyne was so swelled with rain and land floods, that he could not get across, it was his practice to shout over to them, and, having made inquiries after the state of their health, to return home.

In 1825, in a letter to an old crony in London, after describing with a kind of enthusiastic pleasure the domestic comforts which he daily enjoyed, he says, "I might fill you a sheet in dwelling on the merits of my young folks, without being a bit afraid of any remarks that might be made upon me, such

* In page 82 of the same volume is the representation of a cart-horse running away with some affrighted boys, who had got into the cart while the careless driver was drinking in a hedge-alehouse. It is observable, that the rapidity of the cart is finely expressed by the almost total disappearance of the spokes of the wheel; a circumstance, it is believed, never before noticed by an artist.

as 'look at the old fool, he thinks there's nobody has *sic bairns as he has.*' In short, my son and three daughters do all in their power to make their parents happy."

Mr Bewick was naturally of the most persevering and industrious habits. The number of blocks he has engraved is almost incredible. At his bench he worked and *whistled* with the most perfect good humour, from morn to night, and ever and anon thought the day too short for the extension of his labours. He did not mix much with the world, for he possessed a singular and most independent mind. In the evening, indeed, when the work of the day was finished, he generally retired to a neighbouring public-house, to smoke his pipe, and drink his glass of porter with an old friend or two, who knew his haunt, and enjoyed the *naïveté* and originality of his remarks. But he luxuriated in the bosom of his family; and no pleasures he could enjoy in the latter stage of his life, were equal in his esteem to the sterling comforts of his own fireside. He died, as he had lived, an upright and truly honest man; and breathed his last after a short illness, in the midst of his affectionate and disconsolate offspring, at his residence in West Street, Gateshead, on Saturday November 8. 1828 in the 76th year of his age. His

remains were accompanied by a numerous train of friends, to the family burial-place at Ovingham, and deposited along with his parents, his wife (who had died February 1. 1826, aged 72), and his brother previously mentioned.*

Much more might be said of this distinguished artist. More has been said. In Blackwood's Magazine (for 1825), there is a very elegant critique upon Mr Bewick's works. † In the first volume of the Transactions of the Natural History Society of Newcastle, p. 132, is a Memoir of Mr Bewick, by George Clayton Atkinson, Esq., whose love of nature led him, while very young, to seek the acquaintance of our native artist, who was always ready to encourage rising merit. But amidst much judicious remark, there is a detail of particular conversations, &c. which, though highly interesting in this particular neighbourhood, would probably not be so to the public at large. In the third volume of Audubon's

* There is an affecting tail-piece (the final one in his Fables, 1820), in which he describes "The End of All," representing his own funeral, with a view of the west end of Ovingham church, and the two family monuments fixed in the wall. And it may be interesting also to notice, as a proof of that family-attachment mentioned in p. 36, that the tail-piece in p. 162 of his Fables bears the date of his mother's, and that in p. 176 of his father's death.

† For an extract from which, see Note, p. 31.

Ornithological Biography, p. 300, an account of his interviews with Mr Bewick, during his residence in Newcastle, forms one of those delightful "Episodes" with which he contrives to enliven his accounts of birds. We have taken the liberty of quoting it.

"Through the kindness of Mr Selby of Twizel-House in Northumberland, I had anticipated the pleasure of forming an acquaintance with the celebrated and estimable Bewick, whose works indicate an era in the history of the art of engraving on wood. In my progress southward, after leaving Edinburgh in 1827, I reached Newcastle-upon-Tyne about the middle of April, when Nature had begun to decorate anew the rich country around. The lark was in full song, the blackbird rioted in the exuberance of joy, the husbandman cheerily plied his healthful labours, and I, although a stranger in a foreign land, felt delighted with all around me, for I had formed friends who were courteous and kind, and whose favour I had reason to hope would continue. Nor have I been disappointed in my expectations.

"Bewick must have heard of my arrival at Newcastle before I had an opportunity of calling upon him, for he sent me by his son the following note:—

'T. Bewick's compliments to Mr Audubon, and will

be glad of the honour of his company this day to tea at six o'clock.' These few words at once proved to me the kindness of his nature, and, as my labours were closed for the day, I accompanied the son to his father's house.

"As yet I had seen but little of the town, and had never crossed the Tyne. The first remarkable object that attracted my notice was a fine church, which my companion informed me was that of St. Nicholas. Passing over the river by a stone bridge of several arches, I saw by the wharfs a considerable number of vessels, among which I distinguished some of American construction. The shores on either side were pleasant, the undulated ground being ornamented with buildings, windmills, and glass-works. On the water glided, or were swept along by great oars, boats of singular form, deeply laden with the subterranean produce of the hills around.

"At length we reached the dwelling of the engraver, and I was at once shewn to his workshop. There I met the old man, who, coming towards me, welcomed me with a hearty shake of the hand, and for a moment took off a cotton night-cap, somewhat soiled by the smoke of the place. He was a tall stout man, with a large head, and with eyes placed farther apart than those of any man that I have ever

seen :—a perfect old Englishman, full of life, although seventy-four years of age, active and prompt in his labours. Presently he proposed shewing me the work he was at, and went on with his tools. It was a small vignette, cut on a block of boxwood not more than three by two inches in surface, and represented a dog frightened at night by what he fancied to be living objects, but which were actually roots and branches of trees, rocks, and other objects bearing the semblance of men. This curious piece of art, like all his works, was exquisite, and more than once did I feel strongly tempted to ask a rejected bit, but was prevented by his inviting me up stairs, where, he said, I should soon meet all the best artists of Newcastle.

" There I was introduced to the Misses Bewick, amiable and affable ladies, who manifested all anxiety to render my visit agreeable. Among the visitors I saw a Mr Good, and was highly pleased with one of the productions of his pencil, a full-length miniature in oil of Bewick, well drawn, and highly finished.

" The old gentleman and I stuck to each other, he talking of my drawings, I of his wood-cuts. Now and then he would take off his cap, and draw up his grey worsted stockings to his nether clothes ; but whenever our conversation became animated, the re-

placed cap was left sticking as if by magic to the hind part of his head, the neglected hose resumed their downward tendency, his fine eyes sparkled, and he delivered his sentiments with a freedom and vivacity which afforded me great pleasure. He said he had heard that my drawings had been exhibited in Liverpool, and felt great anxiety to see some of them, which he proposed to gratify by visiting me early next morning along with his daughters and a few friends. Recollecting at that moment how desirous my sons, then in Kentucky, were to have a copy of his works on Quadrupeds, I asked him where I could procure one, when he immediately answered 'here,' and forthwith presented me with a beautiful set.

"The tea-drinking having in due time come to an end, young Bewick, to amuse me, brought a bagpipe of a new construction, called the Durham Pipe, and played some simple Scotch, English, and Irish airs, all sweet and pleasing to my taste. I could scarcely understand how, with his large fingers, he managed to cover each hole separately. The instrument sounded somewhat like a hautboy, and had none of the shrill warlike notes or booming sound of the Highland bagpipe. The company dispersed at an

early hour, and when I parted from Bewick that night, I parted from a friend.

" A few days after this I received another note from him, which I read hastily, having with me at the moment many persons examining my drawings. This note having, as I understood it, intimated his desire that I should go and dine with him that day, I accordingly went; but judge of my surprise when, on arriving at his house at 5 o'clock, with an appetite becoming the occasion, I discovered that I had been invited to tea and not to dinner. However, the mistake was speedily cleared up to the satisfaction of all parties, and an abundant supply of eatables was placed on the table. The Reverend William Turner joined us, and the evening passed delightfully. At first our conversation was desultory and multifarious, but when the table was removed, Bewick took his seat at the fire, and we talked of our more immediate concerns. In due time we took leave, and returned to our homes, pleased with each other and with our host.

" Having been invited the previous evening to breakfast with Bewick at 8, I revisited him at that hour, on the 16th April, and found the whole family so kind and attentive that I felt quite at home. The

good gentleman, after breakfast, soon betook himself to his labours, and began to shew me, as he laughingly said, how easy it was to cut wood; but I soon saw that cutting wood in his style and manner was no joke, although to him it seemed indeed easy. His delicate and beautiful tools were all made by himself, and I may with truth say that his shop was the only artist's 'shop' that I ever found perfectly clean and tidy. In the course of the day Bewick called upon me again, and put down his name on my list of subscribers in behalf of the Literary and Philosophical Society of Newcastle. In this, however, his enthusiasm had misled him, for the learned body for which he took upon himself to act, did not think proper to ratify the compact.

"Another invitation having come to me from Gatehead, I found my good friend seated in his usual place. His countenance seemed to me to beam with pleasure as he shook my hand. 'I could not bear the idea,' said he, 'of your going off, without telling you, in written words, what I think of your Birds of America. Here it is in black and white, and make of it what use you may, if it be of use at all.' I put the unsealed letter in my pocket, and we chatted on subjects connected with natural history. Now and then he would start and exclaim, 'Oh, that I

were young again! I would go to America too. Hey! what a country it will be, Mr Audubon.' I retorted by exclaiming, 'Hey! what a country it is already, Mr Bewick!" In the midst of our conversation on birds and other animals, he drank my health and the peace of all the world in hot brandy toddy, and I returned the compliment, wishing, no doubt, in accordance with his own sentiments, the health of all our enemies. His daughters enjoyed the scene, and remarked, that, for years, their father had not been in such a flow of spirits.

"I regret that I have not by me at present the letter which this generous and worthy man gave me that evening, otherwise, for his sake, I should have presented you with it. It is in careful keeping, however, as a memorial of a man whose memory is dear to me; and be assured I regard it with quite as much pleasure as a manuscript 'Synopsis of the Birds of America,' by Alexander Wilson, which this celebrated individual gave to me at Louisville in Kentucky, more than twenty years ago. Bewick's letter, however, will be presented to you along with many others, in connection with some strange facts, which I hope may be useful to the world. We protracted our conversation much beyond our usual time of retiring to rest, and at his earnest request, and

much to my satisfaction, I promised to spend the next evening with him, as it was to be my last at Newcastle for some time.

"On the 19th of the same month I paid him my last visit, at his house. When we parted, he repeated three times, 'God preserve you, God bless you!' He must have been sensible of the emotion which I felt, and which he must have read in my looks, although I refrained from speaking on the occasion.

"A few weeks previous to the death of this fervent admirer of nature, he and his daughters paid me a visit to London. He looked as well as when I had seen him at Newcastle. Our interview was short but agreeable, and when he bade adieu, I was certainly far from thinking that it might be the last. But so it was, for only a very short time had elapsed when I saw his death announced in the newspapers.

"My opinion of this remarkable man is, that he was purely a son of nature, to whom alone he owed nearly all that characterized him as an artist and a man. Warm in his affections, of deep feeling, and possessed of a vigorous imagination, with correct and penetrating observation, he needed little extraneous aid to make him what he became, the first engraver on wood that England has produced. Look at his tail-pieces, Reader, and say if you ever saw so much

life represented before, from the glutton who precedes the Great Black-backed Gull, to the youngsters flying their kite, the disappointed sportsman who, by shooting a magpie, has lost a woodcock, the horse endeavouring to reach the water, the bull roaring near the style, or the poor beggar attacked by the rich man's mastiff. As you turn each successive leaf, from beginning to end of his admirable books, scenes calculated to excite your admiration everywhere present themselves. Assuredly you will agree with me in thinking that in his peculiar path none has equalled him. There may be men now, or some may in after years appear, whose works may in some respects rival or even excel his, but not the less must Thomas Bewick of Newcastle-on-Tyne be considered in the art of engraving on wood what Linnæus will ever be in natural history, though not the founder, yet the enlightened improver and illustrious promoter."

It was indeed hoped that more might have been learned of Bewick from his own pen; for it is known that he had, to fill up the vacant evenings of the last two years of his life, devoted his attention to writing a memoir of himself, for which he had prepared portraits and profiles of several of his friends, together

with several other engravings. But his children, finding, probably, that much related to events and circumstances that principally concerned themselves, and family affairs, which, however interesting to themselves, might not be so to the public, or might subject them to the imputation of vanity, have, with a delicacy that cannot but be respected, declined its publication.

NOTE.

As we conceive all will feel an interest in the character and history of this extraordinary man; we make no apology for introducing here some memoranda of his more familiar hours, contributed to Loudon's Magazine in 1829–30, shortly after his death, by his personal friend, John F. M. Dovaston, Esq. A. M.

" The brief and desultory remarks I am about to incorporate amid the congenial pages of your Magazine of Natural History, arise from a fond and fertile memory of much conversation, and a long and frequent correspondence, with my excellent and beloved friend.

" The first time I had a *personal* interview with the venerable Bewick, was at Newcastle-upon-Tyne, on Wednesday, October 1, 1823, after perambulating the romantic regions of Cumberland and Westmoreland with my friend, John E. Bowman, Esq. F.L.S. We had been told that he retired from his

work-bench on evenings to the "Blue Bell on the side," for the purpose of reading the news. To this place we repaired, and readily found ourselves in the presence of the great man. For my part, so warm was my enthusiasm, that I could have rushed into his arms, as into those of a parent or benefactor. He was sitting by the fire in a large elbow-chair, smoking. He received us most kindly, and in a very few minutes we felt as old friends. He appeared a very large athletic man, then in his seventy-first year, with thick, bushy, black hair, retaining his sight so completely as to read aloud rapidly the smallest type of a newspaper. He was dressed in very plain brown clothes, but of good quality, with large flaps to his waistcoat, grey woollen stockings, and large buckles. In his under-lip he had a prodigious large quid of tobacco, and he leaned on a very thick oaken cudgel, which, I afterwards learned, he cut in the woods of Hawthornden. His broad, bright, and benevolent countenance at one glance bespoke powerful intellect and unbounded good-will, with a very visible sparkle of merry wit. The discourse at first turned on politics (for the paper was in his hand), on which he at once openly avowed himself a warm Whig, but clearly without the slightest wish to provoke opposition. I at length succeeded in turning the conversation into the fields of natural history, but not till after he had scattered forth a profusion of the most humorous anecdotes, that would baffle the most retentive memory to enumerate, and defy the most witty to

depict. I succeeded by mentioning an error in one of his works; for which, when I had convinced him, he thanked me, and took the path in conversation we wished. In many instances, I must remark, though frequently succeeding to the broadest humour, his countenance and conversation assumed and emitted flashes and features of absolutely the highest sublimity; indeed, to an excitement of awful amazement, particularly when speaking on the works of the Deity.

" Thus happily situated, I paid little attention to the iron tongue of the neighbouring steeple of St. Nicholas, whether he *told* the long and loud ' hour o' night's black arch the keystane,' or the wee bit ane ayont it. The fine old fellow, this jolly old Cock o' the North, as I facetiously called him, would persist in seeing us to our hotel, where we renewed our libations even to " sangs and clatter." Very early in the morning he kindly came again with his great cudgel to our chambers; and removed us to his neat and hospitable residence amid the fields and gardens above Gateshead, on the opposite bank of the Tyne. Here we brokefast with his family, consisting then of his good old dame (who died February 1, 1826, aged seventy-two), one son, and three daughters. He now conducted us amid the curiosities of Newcastle, public buildings, pictures, and libraries; and, what is more to my present sketch, his own workshops. Here we saw his manner of producing his beautiful art; and his nests of almost numberless drawers, each filled with

one layer of finished blocks, with their faces upward, on many of whose maiden lineaments, fresh and sharp from the graver, the ink-ball had never been pressed. They are all cut on box-wood, which is procured from abroad of as large circumference as possible, at a great expense, and is paid for by weight. This is sawn across, at right angles to the cylindrical growth of the tree (I mean as a cucumber is sliced), in pieces, when finished, exactly the thickness of the height of the metallic types, with which the blocks are afterwards incorporated in the pressman's *form*, or iron frame. One surface of this block is made extremely smooth, on which is traced in black and white lines, the figure or design; the white is then cut out, and the black left. Though this was the method he took with his pupils, of whom he had constantly a numerous succession, he had early acquired so ready a facility himself, that simply with the graver on little, and often no outline, he worked the design on the blank block at once. His tools, many of his own contrivance and making, were various in sizes and sorts. Some, broad gouges for wide excavation; some narrow, for fine white lines; and some many-pointed for parallels, which, either straight or wavy, he cut with rapidity, by catching the first tooth of the tool in the last stroke, which guided it equidistant with the former. He spoke with great approbation of the graphic talents of his late brother John; and repeatedly said, that, had he lived, he might have attained to greater eminence than him.

self. When they both began, the art was almost lost, and totally neglected; but has, through his hands and ingenuity, been almost, as it were, re-invented, and brought to its present high pitch o perfection: and many of the most celebrated wood-engravers have been his pupils. Here he gave us his opinion of the old method of cross-hatching, a style not now used, or even known, and he said useless; as every effect may be produced by parallel lines, broader or narrower, at greater or less distances; and in the lighter parts, by a little sinking of the surface of the block. The latter is one of his own inventions, and by it a judicious press-man can produce every gradation of shade from very black to nearly white; between which he preferred those of intermediate strength, being decidedly against a black impression. He thought the old engravers effected the cross-hatching, either by covering the block or metal plate with wax, through which the lines were cut*, and an acid then applied to eat into the surface; or by the use of cross or double blocks, requiring two impressions to produce a single figure. Numberless specimens of this cross-hatching may be found in the great old edition of Fox's *Book of Martyrs*, where it is often widely and wantonly thrown away, even where not required; a proof, that it must have been executed without much art or labour: in honest old Gerard's

* This is a mistake; Bewick must have meant that the lines representative of the figure were painted or hatched with any bituminous substance, and the interstices eat down by acids.

valuable *Herbal:* in that of Parkinson: and in Felix Valgrise's beautiful folio edition of Matthiolus' *Commentaries on Dioscorides*, Venice, 1583: and many other ancient books in my collection. Mr. Bewick's own Horse-traveller in a Storm, where he shows black and white rain, is a specimen of the use of two blocks. A person acquainted only with the common method would be at a loss to conceive how the union of the absolutely opposite styles of engraving, on copper and wood, could be effected. The black diagonal lines, particularly those on the foreground, constitute its great curiosity as a wood-cut. In many of his tail-pieces, he has given imitations of etching, and cross-hatching; but these are all worked in the usual manner, the surface of the wood being picked out, with infinite labour and surprising skill, from between the lines. He very seldom engraved from any other copy than nature, having the bird (always alive if possible), or other subject, before him, and sketching the outline on the block, filling up the foregrounds, landscapes, and light foliage of trees, at once with the tool without being previously pencilled. It was curious to observe his economy of box-wood; the pieces being circular, he divided them according to the size of his design, so as to lose little or none; and should there be a flaw, or decayed spot, he contrived to bring that into a part of the drawing that was to be left white, and so cut out. He said, blocks, in durability of lines, incalculably outlasted engravings on copper, which wear very much

in cleaning with chalk for every impression; but editions of wood-blocks must be very numerous indeed before they show any feebleness. In early life he had cut a vignette for the Newcastle newspaper; and this year it had been calculated that more than *nine hundred thousand* impressions had been worked off; yet is the block still in use, and not perceptibly impaired. A faint impression therefore, is by no means to be attributed to the wearing out of the block but to the feebler pull of the pressman; and this may be proved by observing that when any one is remarkably black or light, all that are pulled off that same *form* partake of a similar degree of strength or faintness. I have now in my library a copy, though, I am sorry to say, spoiled with my having written the margins all over with ornithological observations, of the very first edition of the *Birds*, in which many of the impressions are far feebler than the corresponding ones in the very last edition; and in the same edition the same blocks vary in all shades. Let not collectors, therefore, yet despair, who have missed becoming purchasers in the rapid, and now, since the good man's death, more rapid sale of his valuable works.

"At his table we had the pleasure of dining with several gentlemen of distinguished literary character, whom he had most politely invited on our account. After dinner, having largely enjoyed the full flow of his friends' conversation, and launched on its tide many a full and sunny sail of his own, our good host for a moment fell asleep in his elbow-chair;

during which interval a gentleman narrated the following little anecdote, which, I find, my venerable friend's modesty has omitted in his own Memoir. The Duke of Northumberland, when first he called to see Mr. Bewick's workshops, was not personally known to my friend; yet he showed him his birds, blocks, and drawings, as he did to all, with the greatest liberality and cheerfulness; but, on discovering the high rank of his visitor, exclaimed, 'I beg pardon, my Lord, I did not know your Grace, and was unaware I had the honour of talking to so great a man.' To which the duke good-humouredly replied, 'You are a much greater man than I am, Mr. Bewick.' To which my friend, with his ready wit that never failed or offended, resumed, No, my Lord; but were *I* Duke of Northumberland perhaps I could be.'

"A life of Bewick, without a word on his numberless and enrapturing VIGNETTES, would be the story of Aladdin without his lamp. He is the very Autolycus of tail-pieces, which he flings out faster and more profusely, in ribands of all ramifications, than a fire-eater at a fair; ay, 'he utters them as if he had eaten ballads, and all men's ears grew to his tunes.' Do, reader, whatever be thy temperament, open any one of his books, and thou wilt touch a key accordant. Look at the boy-soldiers riding on gravestones, with rush-caps and swords of seg: the two hindermost blackguard ragamuffins, tattered and bare-legged; the next a great awkward booby, son of some scoundrel attorney; and the

captain, smallest of all, well clothed, and in good shoes and stockings,—he is the squire's son, whose hall is seen behind; a pretty emblem of incipient aristocracy. Twenty years hence that little fellow will blow his twopenny trumpet among the Tories, and cry 'the church in danger;' the next rascal will bamboozle him out of his money, and the two villains behind poach in his covers. If thou lovest a good ghost story, as I do marvellously, look at the terrified thief, mistaking the stumps and grey *ran-pikes*, in the gloomy moonshine, for devils and horned goblins, with white wicker ribs and lanky skeleton arms. Wouldst thou know the cause of his terror? look into the back-ground: he has just passed a gallows. I have heard a great painter say that Hogarth might feel proud of this piece.—Ha! that is the murine phaeton, drawn by four cocked-tailed mice: Sir Whisker and Lady Mousellina with her parasol, of Mouse-Cottage; their mouse foot-man, and the mouse arms are emblazoned with mouse supporters on the panel, in all the boast of mouse heraldry: they are going to make a call on Lord Frittertime and Madam Twaddle.—See how that heartless and coarse minded tanner grins a brutal laugh at the poor dog to whose tail the naughty boys have tied a tinned kettle: you may hear that it has just had a bouncing bang.—Those five methodists, listening to the call of their master, scarce occupy two inches; yet look at their faces, male and female—special grace and election!!!—and were it not for the horns and claws of the

preacher, by his clerical attitude you might take him for a very parson.—Cast your eye on the gipsies and their bear; are not thief and harlot marked in their physiognomies? That first fellow's coat is too big for him, a world too wide; he has stolen it.—Look with luxury on the light and buoyant cutter, dancing on the dashing waves, in pursuit of the heavy smuggler, straining and creaking in the breeze, laboriously making off in the misty moonlight.—The lame man has left his crutch behind, having mounted the back of the blind, who has let go his dog: hasty attachments imagine friendship eternal.—That poor spaniel bitch has been howling all night, and has just broken her string, and found her drowned puppies: look at her sudden pause and sorrow!—Ay, friend Bewick, many a lobster handles a pencil, and piddles on a set palette.—Do stop your ears at opening to the two fiddlers, with their jangling discordant scrapings.—I truly pity their hearts who hear not the howling of that scalded dog who has overturned the pot; and the cackling of that hen who has just been laying.—Oh! what a feast of diverting and instructive amusement for an idle summer's day, or a long winter's night! What a rich and exhaustless succession of grotesque figures, funny groups, comical scenes, pithy inscriptions, delicious landscapes, village farmsteads, rocky caverns, tufts of fern, river glens and cascades, quiet pools and sedgy knolls, lovely trees and woody dells, towns and towers, ivied ruins, sea-side views, with sermons in every

stone; dreary snows, stormy waves, rolling ships, and screaming sea-fowl; quiet fountains, forest glades, and woodland solitudes; fairy haunts,

> ——— 'Right seldom seen,
> Lovely, lonesome, cool, and green.'

"The commonest capacity might read a history in every one of these rich and romantic *tale*-pieces, and a mind of wit and fancy may open to each, and feel arise from it the simultaneous power of delivering a bright or blooming narrative of melancholy or mirth. Thus the copious, capacious, and bountiful mind of Bewick, not merely content to fling around each bird and figure the most beautiful and appropriate scenery, but revelling in exuberance of imagination, drops, on almost every leaf, some gem of genius, 'to point a moral or adorn a tale.' These fling on our sunny memories gleams and glances of nature, that impulsively shed on the feelings a delicate mental and bosom emotion, indicating the presence and influence (and probably constituting much) of that fine but indefinable power called genius; whence emanating on congenial dispositions, like rich tones on accordant vibrations, awaken, in successive combination, all the melodious harmonies of the heart.

"In his *Memoir* he has detailed his sentiments on the purity of representation and free government, in a manner worthy the pen of a Bacon or Locke; a history of the art of wood-engraving; and observations on the progress of his own mind. Though

some of his less important opinions may, to persons who knew him not, appear but as whimsical fancies, they are the levities of a great and benevolent soul, that, like the brilliant air-bubbles of a deep clear fountain, rise playfully to the surface, without sullying its purity. The style is plain and simple, but sinewy and nervous, marking his character as much as his manners and even his dress, and is strongly tinctured, as was his conversation, with broad Northumbrian and Scottish provincialisms, which, particularly when he read it aloud, strengthened the efficiency. The narrative is replete with anecdote, especially in the earlier parts, wittily recorded and morally applied, and very much reminded me of that of the excellent Benjamin Franklin; indeed, to that good and great man, both in his religious and political sentiments, he appeared to bear a nearer resemblance than to any other. He was indefatigable and intrepid in his search after truth, dauntless and strenuous in the declaration of his matured sentiments, however opposite to received opinions, and fearless of any pains or penalties which the avowal of them might bring upon him from persecuting bigots. But the objects nearest to his heart were, to render the works of the Creator familiar to youth, by dressing them in their most alluring form, and thereby leading to the knowledge and admiration of their great Author, and to the principles of what he believed to be true religion, and what all believe to be those of sound morality. These were his constant aim and study, and to these

he considered every thing else as subordinate. The success of his labours in this field he acknowledged, but was unconscious of it till made aware by the voluntary and unsought admiration of the world. When the admired preface to his *Fables* first appeared, letters from eminent men poured in upon him, particularly from the University of Cambridge, and one from the Bishop of Gloucester; numerous letters of thanks for the benefits he conferred on the rising generation, from men of talent and literary eminence, who were total strangers to him, except through his works, but who admired his modesty, his genius, his benevolence, his wit, his ingenuity, and his genuine religious principles.

"Frequently, as I walked with him along the streets, it was gratifying to witness how much and how generally his character and talents were respected; particularly when many who bowed to him differed totally from him in opinions, on a subject that ought to conciliate, but far too often sets little minds at inveterate hostility with great ones. An amiable touch of character showed itself in the many ragged children who followed him for halfpence, and would not leave him till he had imparted the customary largess. He turned to them several times, while he was talking to me, saying, 'Get awa', bairns, get awa; I hae none for ye the day.' As they still kept dogging him, and pulling at his coat, he turned into a shop, and throwing down a tester, said, in his broad dialect (which he neither affected to conceal, nor pretended

to affect), 'Gie me sax penn'orth o' bawbees;' and throwing the copper among the children, said kindly, and with a merry flourish of his cudgel, 'There, chields, fit yoursels wi' ballats, and gae hame singing to your mammies.' He was particularly fond of playing with little children, who, notwithstanding his bulky appearance, and extremely rough face, suffered themselves to come unto him; and among the numerous and ill-sorted contents of his capacious pockets, he generally (like the all-hearted Dandy Dinmont) had an apple, a whistle, or a bit of gingerbread, together with pencil ends, torn proofs, scraps of sketches, highly tinted with the yellow ooze of huge pigtail quids, in divers stages of mastication.

"Yet gentle, generous, and playful as he was, his personal strength and courage was prodigious: and notwithstanding his ardent feelings of humanity towards all animals, particularly dogs, horses, and birds, in defending many whereof he had drawn himself into scrapes; yet, when his own safety was at stake, he could repel an attack with a vigorous neart and arm: for he told me, as how going into a tanyard, a great surly mastiff sprung upon him, and how he caught said mastiff by the hind legs, and 'fetched him, wi' his cudgel, such a thwacker owre the lumber vertebræ, that sent him howling into a hovel.'

"We enjoyed our evenings as may well be conceived, with such a host at our head; often till broad morning began to spread her bright drapery

along the east; and even the admonishing sunbeams to *keek* through the shutters, laughing out the candles. Be up as early as I could, I always, were the morning fine, found him walking briskly in his garden for exercise. His *ornithic* ear was quick and discriminative; he one morning told me he had then first caught the robin's autumnal melody, and said we should have a premature fall of the leaf; we had so, after the excessively hot summer of 1825. I had heard this robin as I lay in bed, feeble and infrequent; and as we walked in the garden, a passerine warbler, Sýlvia horténsis (whom, from his profusion of hurried and gurgled notes in May, I call the *Ruckler*), just gave a touch of his late song, which the fine ear of Bewick instantly caught, though in loud and laughing conversation. At meals he ate very heartily, and, after a plentiful supply, often said he could have eaten more. In early, and indeed late in, life he had been a hardish drinker; but was at this time advised by his medical friends to be more abstemious, which he abode by as resolutely as he could, though not without now and then what he called a *marlock*. It has been said that Linnæus did more in a given time than ever did any one man. If the surprising number of blocks of every description, for his own and others' works, cut by Bewick, be considered, though perhaps he may not rival our beloved naturalist, he may be counted among the indefatigably industrious. And amid all this he found ample time for reading and conviviality. I have seen him

picking, chipping, and finishing a block, talking, whistling, and sometimes singing, while his friends have been drinking wine at his profusely hospitable table. At nights, after a hard day's work, he generally relieved his powerful mind in the bosom of his very amiable family; either by hearing Scotch songs (of which he was passionately fond) sung to the piano-forte; or his son Robert *dirl* hornpipes, jigs, strathspeys, and reels, which failed not to put life and mettle in the heels of the females and younger friends, to his glorious delight. Occasionally his fondling Jane would read Shakspeare to him, or the delightsome romances of Shakspeare's *congener* (not to speak profanely), Sir Walter Scott. It has been supposed by many, and publicly asserted by a few, that Bewick never wrote his own works, but was wholly and solely employed on the designs; to this I have his positive contradiction, which would be enough; but that in addition to his own MEMOIR, which I have read in his own MS., I have seen him compose, extract, and translate passages for each bird he has engraved while I was in his house. If his works have any great defect, 'tis the defect of omission; every one laments he has given so little of the history of each bird. I have often offered him to re-write the whole of the birds wherewith from early and lasting habits I was well acquainted, their characters and manners, interspersed with anecdotes and poetry, particularly from good old Chaucer, the bard of birds, and passages of every bearing brought together, flinging over the whole

what may be called the poetic bloom of nature, in which none have so sweetly succeeded as honest White of Selborne. But this he always resolutely refused; alleging that his descriptions, whether original, copied, or compared, were unimpeachably accurate; and that was enough. And not only did he write his own language, but I often thought his talent in that department not surpassed even by the other effusions of his genius; witness his unparalleled Preface to his Fables, and his other Introductions. He said, even to the last, he felt no deficiency of his imaginative powers, in throwing-off subjects for his *tale*-pieces (as I named them), which were always his favourite exercise; the bird or figure he did as a task, but was relieved by working the scenery and back-ground; and after each figure he flew to the tail-piece with avidity, for in the inventive faculty his imagination revelled.

"Before I conclude this familiar account of my friend Bewick, you must, in justice, allow me to inform the public, that it was commenced, and (after its first portion) very considerably lengthened, at your request. Yet still, under the continual fear of dilation, I reluctantly omit innumerable incidents that are sparkling about the twilight of my memory, and hurry on to my last interview with my esteemed friend. Early in June 1827, he wrote to me from Buxton, that, for the gout in his stomach, he was hurried there by his medical friends, accompanied by his daughters Jane and Isabella. At sunrise I mounted the high-pacing Rosalind,

and entered that naked but neat little town early the second morning; alighting at the Eagle—fit sign to a visitor of the king of bird-engravers.

"In my haste to find his lodging, I passed it; but stumping behind, with his great cudgel, he seized me ardently by the arm before I was aware, exclaiming, 'I seed ye from tha window, and kenned yer back and gait, my kind friend.' I found him in very good lodgings facing the fountain-corner of the superb Crescent, nearly opposite the Old Hall; and, after the fervid raptures of again meeting, we settled down into our usual chit-chat. There were three windows in the front room, the ledges and shutters whereof he had pencilled all over with funny characters, as he saw them pass to and fro, visiting the well. These people were the source of great amusement: the probable histories of whom, and how they came by their ailings, he would humorously narrate, and sketch their figures and features in one instant of time. I have seen him draw a striking likeness on his thumb-nail, in one moment; wipe it off with his tongue, and instantly draw another. He told me that, at watering-places, if his name were known, he was pestered with people staring at him, and inflicting foolish questions; and he cautioned me always in public to to call him the 'old gentleman.' We dined occasionally at the public table; and one day, over the wine, a dispute arose between two gentlemen about a bird; but was soon terminated by one affirming he had compared it with the figure and description of

Bewick, to which the other replied that Bewick was next to Nature. Here the old gentleman seized me by the thigh with his very hand-vice of a grasp; and I contrived to keep up the shuttlecock of conversation playfully to his highest satisfaction, though they who praised him so ardently, little imagined whose ears imbibed all their honest incense. On evenings we often smoked in the open windows of his pleasant lodgings, and chatted in all the luxury of intellectual leisure. A cocky wren ran, like a mouse, along the ledge of the window. 'Now,' says he, 'when that little fellow sings, he sings *heartily!*' Upon which the merry little creature, as if conscious of our conviviality, and of who heard him, perched on a post, and trilled his shrilly treble with thrilling might and main. Of nights we had music, the young ladies sang, or we read marvellous or merry ballads, or again relapsed into our pleasantries; fully agreeing with the piquant and pithy Venusian poet, that fun is no foe to philosophy, to mix short sallies with our serious discourse, and nothing so sweet as to play the fool when fitting.

'Misce stultitiam consiliis brevem
Dulce est desipere in loco.'

"Of Lord Byron's poetry he spoke with great disgust, saying, it teemed with less imagination, and more trash, in any quantity, than that of any other great poet; that power was the prominent feature of his mind, which he prostituted; and the great failing of his heart was depravity, which he adorned.

He thought the romances of Sir W. Scott breathed very large and frequent aspirations of the genuine essence of poetry; that his landscapes and figures were spirited and highly coloured painting, and his real characters the finest specimens of historical portraits. Paradise, he said, was of every man's own making; all evil caused by the abuse of free-will; happiness equally distributed, and in every one's reach. 'Oh!' said he, 'this is a bonny world as God made it; but man makes a packhorse of Providence.' He held that innumerable things might be converted to our use that we ignorantly neglect; and quoted, with great ardour, the whole of Friar Laurence's speech in *Romeo and Juliet*, to that effect. In corroboration of this, one day, at the mouth of Poole's Hole, which, on account of the chilly damp and dripping of the cavern, he declined to enter with me and the young ladies; while we were exploring the strange and fantastic formations of calcareous tufa therein, the *Flitch of Bacon*, the *Saddle*, and *Mary Stuart's Pillar*, (which, it is said, she went quite round when a prisoner at Chatsworth), I found, on our emerging, he had collected his handkerchief full of nettle-tops, which, when boiled, he ate in his soup, methought with very keen relish. It was on our walk back, for some joke I cracked, they promised me a collection of all his engravings on India paper, which, at the time, I thought a joke too; yet, valuable and expensive as was the promise, I, in due time, found it faithfully and affectionately performed.

"I had never parted from him without our reciprocally thinking it would be the last; but this time we both thought otherwise, for his health was very much ameliorated. Black Monday at length came; and though the sun shone broad on every thing around, they walked slowly, and methought strangely silent, with me (I leading Rosalind, heavy as a nightmare), about two miles on the road, where, after saluting the young ladies, and shaking the good old Bewick's hand, though I hope to enjoy *their* friendship yet many years, it was on that mountain side that with *him* I parted for ever; and looking back, till the road turned the corner of a rock, dimly saw them kindly gazing after me: and this was the last time I ever beheld the portly person of my benevolent and beloved friend. We continued, however, to correspond frequently; not only on natural history, but (as the Irish scholar said) 'de omnibus rebus, et *quibusdam aliis*,' on the manners of both feathered and unfeathered bipeds. The next summer, he visited London about his works; and thence he wrote me several very humorous letters on the utterly artificial life of the cockneys; with the mass of whom, since he was among them half a century before, he thought *the march of intellect* had not equalled *the march of impudence*. He was, however, very honourably received by many learned societies and individuals, of whom, and of whose collections, he wrote in raptures. On his return, the London and provincial papers had many paragraphs respecting this visit,

his reception, and his life; to amend the errors of which statements, I must have been writing one at the very hour of his death; for I had not time to stop its insertion in one of the Shrewsbury papers, when I received a short, but most affectionate and affecting letter from his son, informing me, 'as his father's most valued friend,' that he expired, in full possession of his fine and powerful mental faculties, in quiet and cheerful resignation, on the 8th of November, 1828. On the morning of his death, he had the satisfaction of seeing the first proof-impression of a series of large wood-engravings he had undertaken, in a superior style, for the walls of farm-houses, inns, and cottages, with a view to abate cruelty, mitigate pain, and imbue the mind and heart with tenderness and humanity; and this he called his last legacy to suffering and insulted Nature."

HISTORY OF THE PARROTS,

OR

FAMILY PSITTACIDÆ.

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In presenting to our readers a volume containing the natural history of the Parrots, or family *Psittacidæ*, we have to direct their attention to an assemblage of birds, not less remarkable for the peculiarity of their form, the gay, varied, and in many instances, splendid plumage in which they are attired, than for the intelligence and docility so many evince in a state of captivity or domestication, and the peculiar facility possessed by several species of imitating the intonations of the human voice, and learning by rote words, and even sentences, which they remember and repeat with clearness and precision; a faculty, it may be remarked, confined to these birds, and to some few of the *Sturnidæ* and *Corvidæ* members of the Conirostral Tribe,—another primary division of the Typical Order *Insessores*.

According to the natural system, or that founded upon the affinities which connect the various members of the feathered race, and which has been so ably illustrated and confirmed by the writings of Vigors, Swainson, and other eminent ornithologists of our own country, the *Psittacidæ*, or family of the Parrots, belong to the order Insessores, and to that primary division which has been named *Scansores*, in accordance with the climbing and prehensile powers of its typical members. In this Tribe or Division, it forms one of the five circular groups or families into which it primarily resolves itself, the other four being represented by the *Picidæ*, or Woodpeckers; the *Ramphastidæ*, or Toucans; the *Cuculidæ*, or Cuckoos; and the *Certhiadæ*, or Creepers. In its own tribe, it constitutes one of the typical, or, according to Mr Swainson's views, the sub-typical group, as it possesses powers of grasping and climbing superior to those of three of the above or Aberrant Groups, and inferior in some respects only to those of the eminently typical *Picidæ*. To any objection that the station thus assigned to this remarkable family is at present rather assumed than borne out by facts, or proved by direct affinity, it may be observed, that although its connexion with the other groups of the tribe is not of so close or direct a nature as might be wished for, in consequence of some of the links necessary to complete the chain of affinity being deficient or unknown; still its general agreements in form and habits are sufficiently pro-

minent to shew that its relationship to the other scansorial groups is of a degree much nearer than what it bears to any other tribe; and farther, that its apparent isolation, or want of a still closer connexion with the birds among which it is placed, in all probability arises, merely from the circumstance that the species necessary to fill up this chasm or deficiency of connecting forms, though existing, remain yet to be discovered either in it or the conterminous families of the tribe. Previous to the enlightened and philosophic views of recent naturalists respecting systematic arrangement, and the discovery that all natural groups, of whatever value or extent they may be, arrange themselves in a circular form, or shew a disposition to return into themselves, the parrots, under the Linnæan and other artificial systems, were considered as forming a single isolated genus, under the title of Psittacus, the various modifications of form they exhibited being only considered in the light of specific characters, or at most used for arbitrary sectional division. A comparison, however, of the parrots with other extensive groups, and a due consideration of the great diversity of form, as well as of habits and manners, observed to prevail among them, plainly shews that they are entitled to a rank much higher or more comprehensive than that of Genus, which, according to the now generally received acceptation of the term, is used to designate one of the lowest assemblages of individuals or species. In consequence, the Linnæan genus,

Psittacus, has taken a higher rank in the natural system, and has been placed upon an equality with groups of a similar value, under the denomination of *Family*, subordinate to which are other less comprehensive circles or assemblages of species, the next in extent being that of Sub-family. Of groups of the latter denomination, the five following have been indicated by Mr Swainson, whose views in this primary division of the family we are inclined to prefer to that formerly proposed by Mr Vigors, in the second volume of the Zoological Journal, as being more in accordance with the natural affinities, structure, and economy of the species; and though a stricter examination and analysis is still required to ascertain the precise situation of species whose history is but little known, we have sufficient to mark the properties and peculiarities which distinguish these primary groups.

The first is that of *Macrocercina*, and is composed of the splendidly attired *Maccaws*, all of which are confined to America, as well as the nearly allied forms now distinguished by the generic titles of Arara, Aratinga, and Psittacara. In this division also we place a group of Birds belonging to the ancient Continent, viz. the genus *Palæornis*, Vigors. Instead of considering it, as he does, the type of a subfamily, this division constitutes one of the normal, or, according to Mr Swainson, the subtypical group of the family, and is analogous to the dentirostral tribe of the Insessores, and consequently, in

its own circle, is the representative of the Raptorial Order.

The second sub-family is that of *Psitticina*, represented by the short and even-tailed species usually called *par excellence* Parrots; they are found distributed throughout all the divisions of the globe within the tropics. This is the typical group of the Psittacidæ, and is analogous to the conirostral tribe of the Insessores.

The third is called *Plyctolophina*, or Cockatoo Division, containing the birds familiarly known by that name, as well as the Black, and other nearly allied species. They are natives of India, its islands, and Australia. These represent the Scansores, and consequently the Rasorial Order, in their own family.

The fourth is named *Loriana*, from a group of parrots generally known by the name of Lories, natives of India and its islands. It also contains the numerous members of the genus *Trichoglossus*, Vigors, and several other generic forms belonging to Australia, all of which are distinguished from the rest of the Psittacidæ by their comparatively slender bill and papillose tongue. This division beautifully represents the Tenuirostres, and is the Grallatorial group of the Psittacidæ.

The fifth is that of the Broad-tails, or sub-family *Platycercina*, composed of the beautiful genus *Platycercus*, Vigors, and of the other ground or slender-legged parrots of Australia. In it we are also in-

clined to place the black parrots of Madagascar, known by the name of *Vasa*. This division is considered as analogous to the fissirostral tribe of the Insessores.

By Buffon, and other naturalists of an early date, the geographical distribution of the parrots was supposed to be confined to the sultry climates within the Tropics. The discoveries made during the various scientific voyages which have since explored the globe, and the keen research that of late years has been instituted in pursuit of objects of natural history, have, however, shewn that it is much wider in extent, particularly in the southern hemisphere, where species have been found in latitudes as high as 50°, examples having been discovered and brought from the Straits of Magellan. In the northern hemisphere, the limit appears to be more restricted, as the Carolina parrakeet of North America, and some few African species, are seldom seen beyond the 32d or 33d degrees. The Equatorial Regions must, however, be considered the metropolis of the family, as it is in them that the greatest variety of genera are met with, the species which inhabit the higher or colder latitudes, though numerous, belonging to a very limited number of generic forms. In the majority of this family, we find a plumage which, for richness and variety of colour, yields to few of the feathered race; and though, like the tulip among flowers, it may by some be thought gaudy, and composed of colours too violently and abruptly contrast-

ed to give that satisfaction to the eye which a more chastened, or rather a less abrupt, intermixture of tints is wont to produce, still we think no one can examine or look at some of the gorgeously decked Maccaws, the splendid and effulgent Lories, or the diversified tints of the Australian Parrakeets, without acknowledging them to be among the most beautiful and striking of the feathered race.

In the first, second, and fifth subfamilies, the ground or prevailing colour is green, generally of a lively tint, and varying from grass to sap and emerald-green, as expressed in Syme's Nomenclature of Colours. Upon this groundwork, patches of almost every known or possible hue are to be found in one or other of the species. In the subfamily Plyctolophnia alone we meet with a more uniform and plain attire, the true cockatoos being white, or white tinged more or less with rosy red or pale yellow. The other forms in this group are black or greenish-black, sometimes relieved with large masses of red or yellow upon the tail. In texture the plumage may be called firm, close, and adpressed, in some species even assuming a scaled or titled appearance. The general form of the Psittacidæ may be stated as short, strong, and compact, but as deficient in elegance, in the short and even-tailed species, in which the great bulk of the head and bill seems disproportioned to the rest of the body. In the parrakeets, this disproportion is done away with, or at least in a great degree counteracted by the elongation of the tail, and

many of them exhibit an elegance of form and gracefulness of carriage surpassed by few other birds. The formation of the feet, which are *zygodactile*, or with the toes placed two forwards and two backwards, and, in all but the few aberrant species previously adverted to, expressly adapted and formed for firm prehension and climbing, evidently points to woods and forests as the appropriate and natural habitats of the race. It is accordingly in those regions where the trees are clothed in perpetual verdure, and where a constant and never failing succession of fruits and seeds (the common food and support of the tribe) can always be procured, that the parrots are found in the greatest numbers and profusion. Thus the recesses of the interminable forests of South America are enlivened by the presence of the superb Maccaws, and the nearly allied species of the genus Psittacara; those of India and its islands by the elegantly-shaped members of the genus Palæornis, and the scarlet-clothed Lories; while those of Australia resound with the harsh voice of the Cockatoos, and the shriller screams of the nectivorous Trichoglossi, and broad-tailed Parrakeets or Platycerci. In these their natural situations, their movements are marked by an ease and gracefulness we can never see exhibited in a state of confinement. They are represented as climbing about the branches in every direction, and as suspending themselves from them in every possible attitude; in all which movements they are greatly assisted by their hooked and powerful bill, which is

used, like the foot, as an organ of prehension and support. The pointed and ample wing, which we perceive to prevail among the parrots, indicates a corresponding power of flight; and accordingly we learn from those who have enjoyed the enviable opportunity of seeing and studying them in their native wilds, that it is rapid, elegant, and vigorous, capable of being long sustained, and that many of the species are in the habit of describing circles and other aerial evolutions, previous to their alighting upon the trees which contain their food. Thus Audubon, in his account of the Carolina Parrakeet, says, "Their flight is rapid, straight, and continued through the forests, or over fields and rivers, and is accompanied by inclinations of the body, which enable the observer to see alternately their upper and under parts. They deviate from a direct course only when impediments occur, such as trunks of trees or hou es, in which case they glance aside in a very graceful manner, as much as may be necessary. A general cry is kept up by the party, and it is seldom that one of these birds is on wing for ever so short a space, without uttering its cry. On reaching a spot which affords a supply of food, instead of alighting at once, as many birds do, the parakeets take a good survey of the neighbourhood, passing over it in circles of great extent, first above the trees, and then gradually lowering, until they almost touch the ground, when, suddenly reascending, they all settle on the tree that bears the fruit of which they are in

quest, or on one close to the field in which they expect to regale themselves."

Many of the species are gregarious, and except during the breeding season, are always seen in large and numerous bodies; others, as the black cockatoos, are met with in pairs or families. The places selected for hatching their eggs, and rearing their young, are the hollows of decayed trees, they make little or no nest, but deposit their eggs, which, according to the species, vary from two to five or six in number, upon the bare rotten wood. In these hollows, it is said, they also frequently roost during the night, and such we learn is the practice of the bird previously mentioned, for the same author observes, "Their roosting place is in hollow trees, and the holes excavated by the larger species of Woodpeckers, as far as these can be filled by them. At dusk, a flock of parrakeets may be seen alighting against the trunk of a sycamore or any other tree, where a considerable excavation exists within it. Immediately below the entrance, the birds all cling to the bark, and crawl into the hole to pass the night. When such a hole does not prove sufficient to hold the whole flock, those around the entrance hook themselves on by their claws and the tip of the upper mandible, and look as if hanging by the bill. I have," he adds, "frequently seen them in such positions by means of a glass, and am satisfied that the bill is not the only support used in such cases."

The natural voice or notes of the tribe consist en-

tirely of hoarse or shrill and piercing screams, with little or no modulation, and frequently reiterated during flight, as well as when otherwise engaged in feeding, bathing, or preserving their plumage. The power of imitating the human voice, and learning to articulate a variety of words and sentences, is not possessed by all the species, but is principally confined to the short and even-tailed parrots, in which the tongue is large, broad, and fleshy at the tip. In disposition, with the exception of one or two forms, they are quiet and docile, and easily reconciled to confinement, even when taken at an adult age. Their flesh is said to be tender and well flavoured, particularly that of the younger birds, and is frequently used as food in the districts they inhabit. The general characters of the family are—bill convex, large, deflected, thick, and strong. The upper mandible, overhanging the under, hooked at the tip, and furnished with a small cere at the base, the under mandible thick, ascending, and forming when closed, an angle with the upper. Tongue thick, fleshy, and soft. Nostrils round, placed in the cere at the base of the bill. Feet scansorial, the external toes longer than the inner. In regard to their internal anatomy, we may here observe that the bill is furnished with additional and powerful muscles, and that the intestinal canal is of great length and destitute of cœca.

We shall now proceed to describe the examples selected to illustrate the different groups, making

such farther observations as may be required upon the subfamilies and genera as they occur.

We shall commence with the subfamily of the *Macrocercinæ* or Maccaws, which, in its own family, is analogous to the dentirostral tribe of the *Insessores*, and represents the subtypical group of the *Psittacidæ*. By Mr Vigors, in the view he has taken of the distribution of the Parrots, this subfamily is restricted to the *Maccaws* properly so called, a group arranging itself under one, or at most, two generic types, the other American long-tailed Parrots, as well as those belonging to the ancient world, being all included in another division to which he gave the name of *Palæornina*. To this distribution there are strong and manifold objections, uniting as it does in one great group, birds differing essentially in structure as well as habit, such as the *Lories* and other nectivorous Parrots, and those various genera which compose the *Platycercine* subfamily, which depart so far from the true scansorial species in their character and general habits. It is on this account, and as being more in accordance with the natural affinities of the race, that we have adopted the suggestions of Mr Swainson, in regard to the primary divisions of this family, though we must add, that much additional information is required to work out the details, and that there are many species whose exact station remains doubtful, and which further analysis and observation can alone

satisfactorily resolve. In addition to the true Maccaws, the typical form of this subfamily, it appears naturally to embrace many of the other American long-tailed species, now divided into separate generic groups (except by Wagler, who retains the whole under the single genius *Sittace*), one of which has been characterized under the title of *Psittacara*, Vigors, answering nearly to the *Peruche-Aras* of the French ornithologists, the members of which are distinguished by having the orbits and face to a greater or less extent naked, as exhibited in the species selected for illustration. Another is composed of the species in which those parts are feathered, and for which the title of *Aratinga* has been proposed, though it is probable that a still further generic subdivision of this latter group will be required. In this division, also, we would place the long-tailed Parrots of the ancient world, forming the genus *Palæornis*, Vigors, a group whose history and distribution he has traced with such acumen and classic lore in the pages of the Zoological Journal. With this group we shall commence our illustrations, as it is through one of its members, the *Palæornis Barrabandi*, Vigors, that a connexion appears to be supported with the *Platycercine* or broad-tailed division, which stands at the further extremity of the circle of the *Psittacidæ*. This bird, with the tail and general character of *Palæornis*, exhibiting a near approach in the proportions of its legs and feet to the genus *Platycercus*, Vigors, of whose region or metropolis

it is also a native. The passage from the Ring-Parrakeets to the smaller American species, appears to be effected through those species in which the two central tail feathers begin to lose the peculiar character of the typical form, and the culmen of the bill assumes the ridged or triangulate shape that prevails in that American group of which *Psitt. cruentatus*, Temm., may be taken as an example; these are followed by the larger species, as *Psitt. Carolinensis* and *Patachonica*, which lead to the Maccaws by such members as have the cheeks partly feathered. Following the naked cheeked maccaws, we would place the true *Psittacara*, in which the orbits and part of the face is also naked, and the bill large and powerful, such as *Psitt. acuticauda*, *nobilis*, &c. The passage to the next subfamily, or *Psitticina*, seems to be through *Psitt. macrorynchus* (*Tanygnathus macrorynchus*, Wag.), and other species, in which the tail loses its elongate and graduated shape.

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Genus PALÆORNIS.

The genus *Palæornis*, as characterized by Mr Vigors, is distinguished by having the bill thickish, with the upper mandible dilated, the culmen rounded, the tomia deeply toothed or emarginate, the inferior mandible wide, short, and emarginate. Tongue thick and smooth. Wings of mean length, the three first quills the longest, and nearly equal; exterior webs of the second, third, and fourth quills dilated near the middle, tapering towards the apex. Tail graduated with the two middle feathers slender, greatly exceeding the rest in length, with their tips rounded. Feet, the tarsi rather short, claws strong and falcate.

"The birds," Mr Vigors observes, "that compose this genus, are at first sight distinguished by their superior elegance and gracefulness of form. This character is considerably increased by the construction of the tail, the two middle feathers of which far exceed the rest in length." The different species of *Palæornis* known to us, are inhabitants of continental India, its islands, and Africa, with the exception of the *Palæ. Barrabandi*, which is a native of Australia. They are held in high esteem for their beau-

ty, as well as for their docility and imitative powers, which seem equal, or but little inferior, to those of the short and even-tailed kinds.

Our first figure represents the

E. Lear del.

PALÆORNIS BARRABANDI.

Barraband Ring Parrakeet

Lizars sc.

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BARRABAND RING-PARRAKEET.

Palæornis Barrabandi.—Vigors.

PLATE I.

Palæornis Barrabandi, *Vigors*, in *Zool. Journ.* vol. ii. p. 56, Sp. 10.—Psittacus Barrabandi, *Swains. Zool. Illust.* vol. i. p. 59.—Polytelis Barrabandi, *Wagler*, in *Abhand.* &c., p. 519 —Scarlet-breasted Parrot, *Lath. Gen. Syn.* vol. ii. p. 121, P. 24, Ed. 2.

In this handsome bird, we have one of those interesting forms which so beautifully connect groups, otherwise distant and far removed; for though the character and shape of the tail, the well-defined ring or neck-collar, the proportions of the wings, &c., evidently place it in this genus, its elevated tarsi and feet shew an approach to the Broad-tailed Division (Platytercinæ), which stands at the further extremity of the Psittacean Family. It is also a native of New Holland, in which interesting country so many species of Platycercus have been discovered, the rest of the ring-parrakeets, being the greater part of them natives of Continental India, and its neighbouring islands, and one or two are also met with

in Africa. It was first figured by Mr Swainson, in his elegant and valuable "Illustrations," under the name of *Psittacus Barrabandi*, from a skin in the possession of Mr Leadbeater; but as no observations or notes appear to have accompanied the remains of the bird, we are without information as to its peculiar economy. Judging, however, from the proportions of its legs and feet, we are led to suppose that it is more terrestrial in its habits than its congeners, or that, in addition to its scansorial or grasping powers, it possesses superior activity, and moves with greater facility upon the ground. In size it is about equal to the Rose-ring Parrakeet, its length being full 15 inches, of which the tail alone measures $8\frac{3}{4}$ inches. The bill is red; the sinciput, throat, and fore-neck of a rich yellow, the latter terminated by a collar of brick red; the space between the bill and eyes, and the ear-coverts, are clear grass green; the upper and under parts of the body are green, tinged with blue upon the hind head and outer margins of the quill-feathers. The upper surface of the tail is green, the two intermediate feathers about two inches longer than any of the others, with their extremities widened and rounded; under surface of the wings and tail blackish-brown; legs black. By Wagler this bird was removed from the genus Palæornis, and constitutes his genus *Polytelis;* but as the only character upon which it is established consists in the slight elongation and slenderness of the tarsi and toes, we have retained it among the

Ring-Parrakeets, where it was first placed by M. Vigors, and of which group it may be considered a slightly aberrant form. The next figure represents the typical species of this genus; it is the

ALEXANDRINE RING-PARRAKEET.

Palæornis Alexandri.—Vigors.

PLATE II.

Palæornis Alexandri, *Vigors, Zool. Jour.* vol. ii. p. 49.—*Wagler*, in *Abhand*, &c., p. 506.—Psittacus torquatus Macrourus antiquorum, *Aldrov. Aves.* vol. i. p. 678; *Icon.* p. 679.—Psittacus Alexandri, *Linn. Lath.* &c.—Perruche à Collier des Isles Maldives. *Buff. Pl. Enl.* p. 642.—Le Grand Perruche á collier, *Le Vaill. Hist. des Per.* pl. 30.—Alexandrine Parrot, *Lath. Syn.* vol. i. p. 234, No. 37.—Ring-Parrakeet, *Edwards*, pl. 292.—Alexandrine Parrakeet, *Shaw's Zool.* vol. viii. p. 423.

In the figure of this elegant bird, our readers are introduced to a well known and favourite species of modern times, and which is generally supposed to have been the first, and by many the only one known to the ancient Greeks, having been discovered during the expeditions of the Macedonian conqueror, by whose followers it was brought to Europe from the ancient *Tabropane*, now the Island of Ceylon. At all events, it is evident from the concurrent testimony of various ancient authors, that whatever par-

E. Lear del.

PALÆORNIS ALEXANDRI.

Alexandrine ring-Parrakeet.

Native of the Island of Ceylon.

Lizars sc.

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'ots were known, either to the Greeks or Romans, previous to the time of Nero, were exclusively brought from India or its islands, and that the species, if more than one had been introduced, also belonged to the genus now in the course of illustration, the description they have given of the plumage of these birds pointing distinctly to this, and possibly one or two other nearly allied species, as not only the prevailing colour of the body, but that of the bill, and the distinguishing characteristic, the neck-collar, are particularly mentioned. By Aristotle it is called Το Ινδικον ορνεον—the Indian Bird; and Pliny not only mentions the country from whence it came but adds, "Sittacen vocat, viridem toto corpore torque tantum miniato in cervice distinctam." Its imitative qualities and powers of articulation, and the high estimation in which it was held among the great, are also frequently adverted to by the poets; and it was in commemoration of a favourite bird of this species, that Ovid composed that beautiful elegy, commencing—

> "Psittacus, Eois imitatrix ales ab oris,
> Occidit."

Of this elegy a free translation is given in Shaw's Zoology, to which, from its length, we must refer our readers. The Alexandrine, as well as its congener the Rose-ring Parrakeet, are still highly prized, and frequently brought from the East Indies, as, in

age, they possess great docility, and a facility of pronunciation inferior to none of the race. Of their habits in a state of nature we remain comparatively ignorant.

PLATE 3.

PALÆORNIS MALACCENSIS.

Malacca Ring-Parrakeet.

E. Lear del.t

Dwarris sc.

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MALACCA RING-PARRAKEET.

Palæornis Malaccensis.—Vigors.

PLATE III.

Palæornis Malaccensis, *Vig. Zool. Journ.* ii. p. 52; *Wagler, Mon. Psit.* in *Abhand.* &c. p. 514.—Psittacus Malaccensis, *Gmel.* vol. i. p. 325, No. 74.—Psittacus erubescens, *Shaw's Zool.* vol. viii. p. 437.—Psittacus barbatulatus, *Bechst. Kuhl. Nov. Acta.* &c., No. 38.—La Peruche á nuque et joues rouges, *Le Vaill.* pl. 72.—Blossom-cheeked Parrakeet, *Shaw.*

A DRAWING of this beautiful species having been made by mistake, instead of a bird belonging to a different division, but bearing the same specific title, is the cause of a third illustration of this genus being given. In its form and aspect it appears eminently typical, the two intermediate tail-feathers being very long, and extending far beyond the others, narrow, but equal in breadth towards their tips, which are blunt or slightly rounded. As its name imports, it was first observed and introduced from Malacca. Its distribution, however, is not confined to that part of India alone, as Mr Vigors mentions in his observations on this group of the Psittacidæ, that several

specimens were brought to this country from Sumatra by the late lamented Sir Stamford Raffles. In size it about equals the *Palæornis Bengalensis* (Rose-headed Ring-parrakeet, a bird of very similar form and habit), its extreme length being generally full fourteen inches, of which the tail alone measures eight. The upper mandible is of a fine lively red, the tip paler, the under mandible black tinged with red. The crown of the head is sap-green; the cheeks, nape, and back part of the neck, are of a beautiful deep rose-red, tinged with lilac-purple upon the latter part. The oblique mustachio-like collar is deep black. The lower part of the neck and mantle are fine greenish-blue; the rest of the upper and under plumage is yellowish sap-green, palest upon the thighs and vent. The quills are margined with blue, their under surface being black. The two long intermediate tail-feathers are azure-blue, tinged with purple towards their tips; the lateral tail-feathers are yellowish-green. The legs and feet are grey, tinged with flesh-red.

Besides the three species here figured, ten or eleven more are described by Mr Vigors and Wagler; the latter, in his Monograph of the family, has bestowed much attention in collating the various synonyms of the species. According to his list, they consist of,—1. *Pal. Alexandri*; 2. *Pal. cubicularis*, identical with the P. torquatus and bitorquatus of Vigors, and the young of which is supposed to be the Pal. inornatus of the same author; 3. *Pal. Bor-*

nevs, apparently referable to the P. erythrocephalus, Vigors; 4. *Pal. melanorynchus*, a species apparently hitherto confounded with the Pal. Pondicerianus, of authors, and not distinguished by Vigors; 5. *Pal. Pondicerianus;* 6. *Pal. barbatus*, by other writers a supposed variety of P. Pondicer., not distinguished as a species in Mr Vigors's list; 7. *Pal. Malaccensis;* 8. *Pal. Bengalensis;* 9. *Pal. cyanocephalus*, the same as the P. flavitorquis of Vigors; 10. *Pal. columboides*, first described by Mr Vigors in the Zoological Journal; and *Pal. inornatus*, the Psittacus incarnatus of authors, a bird whose station in this group, according to Wagler's own account, appears very doubtful. The engraving expresses so correctly the character and plumage of the bird, as to render it unnecessary to give a detailed description. We may mention, however, that the young bird is without the black and rosy coloured collar which distinguishes the adult, in which state it is known as the Psittacus eupatria of authors.

From the Ring-Parrakeets of Asia and Africa we now pass to the Long-tailed groups of South America, the great metropolis of the Macrocercine Division; for here are found not only the typical forms of the subfamily as exhibited in the large and splendid Maccaws, but other species more nearly connected in habit and appearance with the birds be-

longing to the ancient world. Among these may be particularized an extensive group, mostly consisting of birds of moderate size, in which the immediate orbits of the eyes alone are naked; these form a part of M. Spix's genus *Aratinga*, and, as representatives of it, the *Psittacus cruentatus*, Temminck, and *Psitt. leucotis*, Lich., may be quoted. From this group we would separate several larger species, as Psitt. Carolinensis, Auctor, &c., under the name of *Arara*, Spix, reserving the title of Psittacara for another group, in which the bill is much larger, with the tip drawn to a fine point, and having the orbits and part of the face naked, characters which bring it in near connexion with the large bare-cheeked Maccaws. Of this group, the *Psittacus nobilis*, Linn., *Psittacara frontata*, Vig., is an example. As the limits of the volume only permit of a certain number of illustrations, we have selected a species of the second or Arara genus, which, from its size and appearance, seems to lead directly to the genus Macrocercus: it is the

E.Lear del.

ARARA PATAGONICA.

Patagonian Arara

Native of Paraguay

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PATAGONIAN ARARA.

Arara Patagonica.—Lesson.

PLATE IV.

Psittacus Patagonicus, *Azara.*—Arara Patagonica, *Lesson, in Dupp. Voy. autour du Monde*, Part Zool. tab. 35.—Sittace Patagonica, *Wagler, in Abhand. &c.*, p. 659.—Patagonian Parrakeet Maccaw, *Lears' Parrots.*

This large and fine looking species, whose total length is seventeen inches, the tail measuring nearly nine, was first described by Azara, and is a native of Paraguay, the districts of Buenos Ayres, Patagonia, and Chili. In the latter country, it is described as a most abundant species, and is resident the whole year, frequenting the hilly and subalpine regions during the summer, where it breeds in the holes of trees and rocks, but descending as autumn approaches to the lower levels, where it congregates in immense flocks, and frequently does great injury to the produce of the gardens and cultivated fields of the inhabitants. It is said to be of a bold and fearless disposition, admitting of a near approach, which subjects it to be killed in immense numbers by those who suffer from its depredations. Like its

congener the *Carolina Arara*, it is continually uttering its piercing screams, as well when perched as upon wing. It is easily tamed, and can be taught to imitate the human voice, but more imperfectly than some of its congeners, on which account it is held in slight estimation, and but seldom domesticated by the inhabitants. In Patagonia, it extends nearly as far as the straits of Magellan, a southern latitude much higher than any frequented by this tribe in the northern hemisphere, where the limit of their distribution rarely extends beyond the 32d degree. The drawing from which our plate is engraved, was taken by Mr Lear, from a living specimen in the Zoological Gardens, and though inferior in scale, possesses perhaps as much of life and character as that contained in his large and beautiful work, "Illustrations of the Psittacidæ." The bill is of a blackish colour, short and thick at the base. The orbits are naked and white, the space between the bill and eyes feathered, the head and upper part of the neck are blackish-green, tinged with yellow around the eyes, the lower neck is greenish-grey, succeeded by a pectoral collar or gorget of greenish-white, the lower part of the breast is deep greenish-grey. The sides and flanks are yellow, upon the thighs tinged with green. The middle of the abdomen is vermilion red. The back and lesser wing coverts are dusky yellowish-green, the greater coverts and secondary quills are bluish-green, narrowly margined with yellow. The tail is long and lanceolate, of a dingy yellowish-

green, the tips of the feathers passing into bluish-green. The under surface is greenish-black. The legs and toes are flesh red, tinged with grey.

CAROLINA ARARA.

Arara Carolinensis.

Psittacus Carolinensis, *Linn. Syst.* 1. p. 141. 13.—*Lath. Ind. Orn.* 1. p. 93. sp. 33.—*Chas. Buon. Syn.* p. 41.—Sittace Ludoviciana, *Wagler, in Abhand. &c.* p. 656.—Carolina Parrot, *Lath. Syn.* 1. p. 227.—*Wils. Amer. Orn.* 3. p. 89. pl. 26, fig. 1.—*Id. ed. Sir W. Jardine*, 1. p. 376.—*Audubon's Birds of Amer.* v. 1. p. 135. pl. 26.

THE great body of the *Psittacidæ*, as already observed, are natives of the intertropical climates; but the species now under consideration is one of the few that occurs in the temperate regions of the northern hemisphere. It is a native of the North American continent, inhabiting the United States to a latitude as high as 42°. Such, at least, was the case some fifteen or twenty years ago, when Alexander Wilson was engaged in tracing out the history of the birds inhabiting the States; for we find, on turning to his delightful pages, that then it not only prevailed throughout Louisiana and the shores of the Mississippi and Ohio, but also those of their tributary waters as high as Lake Michigan, in lat. 42° N. We learn, however, from a living

author,* scarcely less graphic or original in his descriptive powers, that of late years these birds have rapidly diminished in number, and that they are now almost banished from districts where formerly they used to abound. "At that period," (speaking of twenty-five years ago), "they could be procured as far up the tributary waters of the Ohio as the great Kenhawa, the Scioto, the heads of the Miami, the mouth of the Manimee at its junction with Lake Erie, on the Illinois river, and sometimes as far north-east as Lake Ontario, and along the eastern districts as far as the boundary line between Virginia and Maryland. At the present day, few are to be found higher than Cincinnati, nor is it until you reach the mouth of the Ohio that parakeets are met with in considerable numbers. I should think that along the Mississippi there is not now half the number that existed fifteen years ago." A rapidly increasing population, attended by an extended cultivation, and the consequent destruction of many of those ancient and decayed trees which constituted the dormitories and breeding sites of the species, as well as the war constantly waged against them by the husbandman, as the depredators of the orchard and corn-stacks, are probably the chief causes of their rapid diminution in those parts which they formerly enlivened with their gay and varied plumage. We learn from both authors, that, when engaged in feeding, they are easily approached, and

* J. J. Audubon.

numbers killed by one discharge, as the whole flock alight and feed close to each other. The work of destruction, moreover, is not confined to a single shot; for we are told, that "the survivors rise, shriek, fly round for a few minutes, and again alight on the very place of most imminent danger. The gun is kept at work; eight, ten, or even twenty are killed at every discharge, the living birds, as if conscious of the death of their companions, sweep over their bodies, screaming as loud as ever, but still return to the stack to be shot at, until so few remain alive, that the farmer does not consider it worth his while to spend more of his ammunition." Injurious, however, as they no doubt frequently are to the cultivator, their principal food is said to be the *Cockle-burr*, the seed of the *Zanthium strumarium*, a plant that abounds throughout the rich alluvial lands of the States west of the Alleghany Mountains: it is a weed noxious to the husbandman on many accounts, and the consumption of its seed by the Parrots must therefore be of some advantage, though that is unfortunately for them greatly diminished, from the circumstance of its possessing a perennial root.

Like the rest of the group to which it belongs, the Carolina Arara appears incapable of learning to articulate words, though, when captured, it soon becomes tame, and will eat almost immediately afterwards. Wilson gives a long and interesting account of an individual that he had wounded slightly in the

wing, during one of his excursions, and which he carried for a great distance in his pocket. It soon became familiarized to confinement, learnt to know its name, to come when called on, to sit on his shoulder, climb up his clothes, eat from his mouth, &c. On account of its inability to articulate, and its loud disagreeable screams, it is seldom kept caged in America; and, as Audubon observes, "the woods are best fitted for them, and there the richness of their plumage, their beautiful mode of flight, and even their screams, afford welcome intimation that our darkest forests and most sequestered swamps are not destitute of charms." According to this author, their nest, or rather the place where they deposit their eggs, is the bottom of the cavities of decayed trees. "Many females," he observes, "deposit their eggs together," and the number laid by each individual, he believes is two—a number which seems to prevail throughout the great body of the family. The eggs are round, and of a light greenish white; and the young, when excluded, and before they acquire their feathers, are covered with a soft down. The plumage of the first few months is green, but towards autumn they acquire a frontlet of carmine. Upon the ground they are slow and awkward, walking as if incommoded by their tail. When wounded, and attempted to be laid hold of, they turn to bite with open bill, and, if successful, inflict a very severe wound. They are said to delight in sand or gravelly banks, where they may fre-

quently be seen rolling and fluttering about in the dust, at times picking up and swallowing a limited quantity. The lochs and saline springs are also constantly frequented by them, salt appearing equally agreeable to them as to pigeons, and various other birds and animals. The bill of the Carolina Arara is very hard and strong, the tip much thicker and rounder than in the Psittacara group; the tooth, or angular process of the upper mandible, is well and strongly defined; the colour white. The irides are hazel, the orbital skin whitish. The legs and feet are of a pale flesh red; the claws dusky. The forehead, cheeks, and periphthetonic region, are of a vivid orange red, the rest of the head and neck gamboge yellow; the shoulder and ridge of the wings yellow, varied with spots of orange red. The upper plumage is of a fine emerald green, with purple and blue reflections. The greater wing-coverts are deeply margined with greenish-yellow. The under plumage is a fine pale siskin or yellowish-green. The greater quills have their outer webs bluish-green, passing into bright yellow at the base. The inner webs are hair brown, slightly tinged with green near their tips. The tail is green, the inner webs of the lateral feathers tinged with brownish-red. The feathers of the tibiæ are yellow, passing into orange at the joint. In length it averages about 14 inches; in extent of wings 22 inches.

The next group we have to notice is that of the Maccaws, or genus *Macrocercus*, Viell., here restricted to the larger species, with long lanceolate tails and naked orbits and cheeks. In this group the bill is short but very strong, and higher than long; the upper mandible greatly arched, with the tip long, and projecting far beyond the under, which is massive, and meets the upper at right angles. The palatine ridge is very distinct, and the inner surface of the projecting tips roughened and file like. The tongue is thick and soft. The wings pretty long and acuminate. The feet strong, and formed for grasping; the claws falcate, the tarsi upon which they partly rest are short and thick. In disposition they are much less docile than the true Parrots, and can rarely be taught to articulate more than a few words in a harsh discordant tone; their natural notes are confined to hoarse and piercing screams. They breed in the hollows of trees, laying two eggs, which are said to be incubated alternately by both sexes,

The first species figured is the

E.Lear del.

MACROCERCUS MILITARIS.
The Great Green Maccaw.
Native of Mexico & Peru.

Lizars sc.

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THE GREAT GREEN MACCAW.

Macrocercus militaris.

PLATE V.

Sittace militaris, *Wagler in Abhand. &c.*, p. 668.—Psittacus militaris, *Auct.*—L'Ara Militaire, et le Grand Ara Militaire, *Le Vaillant*, l. c. p. 11, t. 4, et l. c. p. 15, t. 6.—Great Green Maccaw, *Edw.* pl. 13.

In this beautiful species, the ground or prevailing colour of the plumage becomes more assimilated to that of the great body of the long-tailed division, than some of its congeners, for, with the exception of the forehead, the region of the eyes, the lower back, wings, and tail, the remainder is of a fine and lively green. Edwards, in his valuable work, "The Gleanings of Natural History," seems to have first figured and described this Maccaw, which, though ignorant of at the time, he rightly conjectured to be an American bird. It is now ascertained to be a native of Mexico and Peru, inhabiting the warmer districts of the Andean Chain, and attaining to an elevation of about 3000 feet. According to Wagler, its habits differ considerably from those of its congeners, as it does not confine itself to the recesses of

the forests, or its food to the fruits there produced, but attacks in congregated flocks the fields of maize, and other cultivated grain and fruits. Upon these it frequently commits serious depredations, to such an extent, indeed, as to require the constant attention and watching of the inhabitants during the period of maturation. When engaged in their predatory excursions, a guard is constantly left by the flock in some elevated station, generally the summit of a tree, from whence, should danger be apprehended, an alarm is given by a loud and peculiar cry, which is responded to by the immediate flight of the wary depredators. They are also said to feed upon the flowers of the *Erythinæ*, and some species of *Thibaudiæ*, before the ripening of the grains, but whether this is merely to obtain the nectarious juice, as practised by the Asiatic Lories and Australian Trichoglossi, or for the thick and fleshy substance of the flower and embryo pod or seed-vessel, does not appear from Wagler's account. During the period of the rains, which commence in October, the great body of these birds migrate to other districts, and do not return till the maize begins to ripen, which takes place in January and February. It is easily tamed, and of a docile disposition, but can rarely be taught to articulate more than a few words. It appears to have been a favourite among the ancient Peruvians, as we are told it was frequently presented to the Incas, by their subjects, as an acceptable gift. In size, it is inferior to several of the Maccaws, its

extreme length being about twenty-nine inches. The bill is strong, typical in form, its colour blackish-brown. The orbits and cheeks are naked, and of a flesh colour, with striæ of small blackish-brown feathers; the irides are composed of two rings, the outer of a rich yellow, the inner greyish-green. The forehead is of a rich crimson, the chin feathers reddish-brown, and passing rapidly into the green of the neck. The rest of the head, the neck, lesser wing-coverts, the mantle, and all the under parts of the body, are of a fine and lively green, in some lights shewing tints of azure blue on the back of the neck and head. The lower back and upper tail coverts, as well as the greater wing-coverts and quills, are of a fine blue. The tail feathers on the upper surface are scarlet, with blue tips, the under surface and that of the wings orange-yellow. The legs and toes are red, tinged with grey. The claws are strong, hooked, and black.

The second illustration of this magnificent group, is the

BLUE AND YELLOW MACCAW.

Macrocercus ararauna.—Auctorum.

PLATE VI.

Psittacus maximus cyano-virens, *Aldrov. Will.*—Ara bleu et jaune, *Buff. Pl. Enl.* 36.—L'Ara-rauna, *Le Vaillant*, i. t. 3.—Psittacus ararauna, *Shaw's Zool.* v. viii. p. 391. pl. 54.

This beautiful species is rather inferior in size to the great Scarlet Maccaw, but being less common than that bird, and possessing all the typical characters of the group, we have thought that an accurate figure of the rarer bird would be more acceptable to our readers, than one of a kind better known, although the plumage of the latter may boast of greater richness and brilliancy of colour. In length, it measures about 39 inches, the tail alone being about 24. The bill is entirely black, very large and strong. The upper mandible, measuring from the forehead to the tip, three inches and a quarter: it is greatly deflected, and bends immediately from the base; the under mandible is short and massive, rapidly ascending, and describing when closed, a right angle with the upper. The cheeks are white, and nearly naked, with three fine narrow striæ of small black plumes

ear del.

Lizars sc.

MACROCERCUS ARARAUNA

Blue and Yellow Maccaw

Native of Brazil.

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beneath the eyes. The irides are yellowish-white. Immediately beneath the under mandible is a broad black fascia, extending upwards to the ears, and encompassing the greater part of the naked white space. The whole of the upper plumage is of a beautiful rich blue, passing into green upon the forehead, crown, rump, and some of the smaller wing-coverts. The greater quills and tail are of a deeper tint, approaching to violet. The under surfaces of the wings and tail are yellow. The sides of the neck, breast, and inferior parts of the body, are rich saffron-yellow. The legs and feet blackish-grey, the scales defined by whitish lines. Like all the other members of the genus, it is a native of tropical America, and is met with in the Brazils, particularly upon the banks of the river Amazons, in Guiana, and Surinam, &c. It affects the woods, particularly such as occupy swampy grounds, and which abound in a species of palm, upon whose fruit it principally subsists. It is said generally to keep in pairs, though occasionally to assemble in large flocks, and when this is the case, their united screams are heard to a great distance. The dimensions and form of their wings, and long cuneiform tail, indicate a powerful and vigorous flight, and accordingly we are informed that in this respect they are inferior to none of the tribe, their flight being often at a high elevation, and accompanied with a variety of aërial evolutions, particularly before alighting, which is always upon the summits of the highest trees. They deposit their

eggs, which never exceed two in number, in the hollow trunks of decayed trees, and generally have two broods in the year. Both sexes are reported to sit alternately upon the eggs, and are equally assiduous in cherishing and conveying food to the young. When taken at an early age, they are easily tamed, but their imitative powers are not equal to those of the Grey Parrot, and it is seldom that they can be taught to articulate clearly, or more than a few words. Their natural notes are very unpleasant to the ear, consisting of loud and piercing screams, interrupted with hoarse croaking murmurs. Living specimens of this species are sometimes seen caged in England. A very fine one is completely domesticated at Dr Neill's, Canonmills (near Edinburgh), and allowed the freedom of several apartments: when desirous of being noticed, it calls out "Robert," the name of its earliest master, very distinctly; but it has not acquired more than one other conventional sound. Beautiful examples may be studied in the aviaries of the Zoological Gardens. Our next figure represents another species very nearly related to the Scarlet Maccaw: it is the

MACROCERCUS ARACANGA.

Red and Blue Maccaw.

Native of Guiana.

E. Lear del.

Lizars sc

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RED AND BLUE MACCAW.

Macrocercus aracanga.

PLATE VII.

Sittace aracanga, *Wagler, in Abhand. &c.* p. 672.—Psittacus aracanga, *Auct.*—L'Ara canga, *Ve Vaill. Hist. des Per.* t. 2.—The Red and Blue Maccaw, *Edwards*, 4. t. 158.

This large and splendid species has frequently been confounded with its nearly related congener, the *Psittacus macao* of authors, from which it may always be distinguished, by the want of the narrow rows of red plumes upon the naked part of the face, and in having the middle wing-coverts of a bright yellow, instead of green. In dimensions it is fully equal to the other species, frequently attaining 39 inches in extreme length, of which the tail measures nearly 24. The bill is large, and very powerful: the upper mandible yellowish-white, except near the angles of the mouth, where it is varied by a dark streak or spot; the under mandible is black. The cheeks and orbits are covered with a rough pinkish-white skin, without any rows of small feathers; the rest of the head, the neck, back, scapulars, breast,

and abdomen, are vermilion-red. The middle wing-coverts are bright yellow, tipped with bluish-green. The spurious wing, the secondaries, and greater quills, are of a deep azure-blue; the lower back, rump, upper and under tail-coverts, are pale azure and ultramarine blue. The four intermediate or longest tail-feathers are deep vermilion-red, the next feather on each side is red and blue, the remainder are wholly blue. The under surface of all the tail-feathers is deep red. The irides are primrose-yellow; the legs and feet are blackish-grey, the scales are divided or marked by mealy white lines. It is a species apparently widely distributed throughout the intertropical parts of America, being found in Guiana, Surinam, and parts of Mexico. Its habits resemble those of the Blue and Yellow Maccaw, being found in similar situations, and feeding upon the Palmettoes or *Borassi* which abound in the overflowed savannahs of South America. They build in the holes of decayed trees, enlarging them when too narrow, and line the interior with feathers. They hatch, as do most of the tropical species, twice in the year, laying each time two spotted eggs, which are incubated alternately by both sexes. The great size, and gorgeous plumage of this bird, places it among the most imposing of its race; and in aviaries, or living collections of the *Psittacidæ*, it forms a prominent and striking feature. It is, however, only in such situations as the Zoological Gardens, that we can admire and contemplate its beauty with

satisfaction and pleasure, its screams, and hoarse discordant tones, rendering it any thing but an agreeable companion when confined within the precincts of a private house. Our figure is from a living bird in the gardens of the *Zoological* Society.

Immediately following the Maccaws, and nearly related to them by the strength and thickness of the bill, and the naked skin which still occupies the orbits, and more or less of the face, is a group to which we would restrict the title of *Psittacara*, Vigors, typified by his *Psittacara frontata*, but not embracing all the birds which he included in it, several of them having their station among the *Araras*, or that group to which the Patagonian species belongs. The genus *Psittacara* is distinguished by a large, deep, and massive bill, the upper mandible with the culmen imperfectly biangulated, the tip drawn suddenly to a fine sharp point, the tomia sinuated, or imperfectly toothed, the under mandible very large and thick, the tip quadrate, the orbits, and space between the bill and eyes, to a greater or less extent naked. Nostrils round, patent, in the cere at the base of the bill. Wings rather long, acuminate, the three first feathers of nearly equal length, wide at the base, narrowing suddenly toward their tips. Tail rather long, and moderately graduated. The passage from the Maccaw to the Parrot division, appears in one point to be effected by the apparent connection that sub-

sists between the birds of this genus and those of genera *Tanygnathus* and *Triclaria* of Wagler, the latter of which, by the nearly even or slightly cuneated tail, leads to the true or typical Parrots.

The subject of the next illustration is the

E. Lear del.

PSITTACARA NOBILIS.

Noble Parrot Maccaw.

Lizars sc.

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NOBLE PARROT-MACCAW.

Psittacara nobilis.

PLATE VIII.

Psittacara frontata, *Vig. in Zool. Journ.* v. ii. p. 389.—Sittace nobilis, *Wagler, in Abhand. &c.*, p. 661.—Psittacus nobilis, *Lath. Ind. Orn.* i. p. 85. sp. 9.—Psitt. Guianensis, *Kuhl, Consp. Psitt.* p. 19. sp. 11.—Arara macrognathus, *Spix, Av. Bras.* i. t. 25. fig. 102.

INSTEAD of the large bare space which occupies the whole of the face and cheeks of the large Maccaws, the nakedness in this bird is confined to the orbits, and a space between the eyes and the bill, continuous with the cere which covers the base of the latter. The bill itself, though equally massive and powerful in comparison to the bulk of the bird, is differently shaped, the tip being suddenly drawn to a very sharp and delicate point. It is a native of Brazil, Paraguay, and other parts of South America, and occurs in great numbers upon the banks of the Amazons. Its food consists of the kernels of the harder fruits, for obtaining which its powerful bill is admirably adapted. In disposition it is wild, and not easily tamed; and, though noisy

and vociferous in its native woods, appears to possess little or no capability of imitating the sounds of the human voice. Its length is above 12 inches, of which the tail measures about six. The upper mandible is yellowish-white, the under deep greenish grey. The cere, orbits, and denuded space, yellow; the forehead and eyebrows are azure-blue, the feathers rather rigid, and of open texture; the crown of the head, the neck, and the whole of the upper and under parts of the body are of a fine lively grass-green. The elbow and ridge of the wings, as well as part of the inferior wing-coverts, are vermilion-red. The wings and tail are green above, the under surface of a dusky wax-yellow. The feet are blackish-grey, the claws black, strong, and falcate.

From the Maccaw division we now proceed to the subfamily *Psittacina*, containing a numerous assemblage of species, distinguished by their comparatively stout and generally even tail. The larger species of this division answer to M. Kuhl's fourth section *Psittacus*, and are usually known among us by the special title of *Parrots*. These by Wagler, in his *Monographia Psittacorum*, have since been divided into several groups, and constitute his genera *Eclectus*, *Psittacodis*, *Psittacus*, and *Pionus*. In this subfamily, the bill, though very powerful and strong, is more elongated than in the Maccaws and Cockatoos, the head is large, and the face, with some few exceptions, covered with feathers. The tail is short, with the end even, or else slightly rounded; and the wings are generally ample and long. It forms the typical group of the family, and is nearly allied to the Cockatoos, or subfamily *Plyctolophina*, by some interesting forms, among which may be mentioned *Nestor hypopolius*, Wagler, and by some of its smaller members, to the short-tailed diminutive species of the Lory division; while their connection with the *Macrocercinæ* is supported by the forms previously adverted to. The species are found distributed in Asia, Africa, and America, and are all inhabitants of the torrid zone. Many are gregarious, except during the period of incubation. They breed

in the hollows of decayed trees, and most of the species are supposed to lay only two white eggs, which are incubated alternately by both sexes. In disposition, they are the most docile of the family, and possess the power of imitating the human voice in as great, or perhaps greater perfection, than any of the other divisions.

The first illustration belongs to the genus *Psittacus*, as restricted by Wagler, the characters of which are,—Bill strong, proportionate, the upper mandible with the culmen slightly narrowed, the tip, with its under surface, rough with elevated ridges, strongly toothed or emarginate, under mandible slightly compressed, with the cutting edges sinuated. Tongue thick, fleshy, smooth. Cere broad. Nostrils large, orbicular, placed in the cere near the base of the bill. Tail rather short, even at the end. Feet, the tarsi short, strong, and depressed, the two exterior toes long, and nearly equal. Plumage compact, the feathers of the neck broad, truncate, and imbricated. With the exception of the Grey Parrot, *Psitt. erythacus*, Linn., which, although provisionally retained in Wagler's genus, it is likely will eventually be separated from it, on account of its geographical distribution, the nudity of its face, and some other minor characters, the rest of the species belong to the tropical regions of America. The ground or prevailing colour is green, varied in different birds, with red, blue, and yellow. They are of a docile disposition, and of great imitative powers, on which

account they are held in high estimation, and frequently kept caged. They are nearly related to Wagler's genera *Psittacodis* and *Eclectus*, the latter of which appears to lead to the larger Indian Lories; but of these genera, and that of *Pionus*, another group, of which *Psittacus menstruus*, Auct., is the type, our limits do not permit us to give illustrative figures. The subject of the next Plate is the

FESTIVE PARROT.

Psittacus festivus.—Auctorum.

PLATE IX.

Psittacus festivus, Linn.—*Lath, &c.*—*Wagler, Mon. Psitt. in Abhand. &c.* p. 580.—Le Perroquet Tahua de Cay. *Buff. Pl. Enl.* 480.—Perroquet Tavoua, *Le Vaill.* pl. 129. Festive Parrot, *Lath. Syn.* i. p. 298. 102.

We have illustrated the American group of Parrots by a figure of the Festive Parrot, which possesses all the typical characteristics of the genus. It is a native of South America, inhabiting Guiana, Cayenne, and the Brazils, particularly the banks of the river Amazons, and affects the forests, where it procures a constant supply of food in the various seeds and kernels of fruits. It is docile, and easily tamed, and, being of an imitative disposition, readily learns to pronounce words and sentences with great clearness and precision. In size, it exceeds the common Amazons Parrot, measuring between 15 and 16 inches in extreme length. The bill is of a pale flesh colour, strong, and with the upper mandible distinctly toothed. The nostrils are large and open, placed in the cere at the base of the bill. The narrow frontal

PLATE 9.

E. Lear del.

PSITTACUS FESTIVUS.

Lizars sc.

Festive Parrot.
Native of S. America.

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band and eye-streak are deep red, with a purplish tinge. Above and behind the eyes, the feathers are pale azure-blue. The lower back and rump are deep vermilion-red, the greater quills and secondaries have their outer webs of a deep blue, the interior webs being greenish-black. The remainder of the plumage of the upper and under parts of the body is green. The tail is short, being about four inches in length, nearly even at the end, the outmost feather on each side, with its exterior web, margined with blue; the rest are green, with a small spot of pale red near their bases, except the two intermediate feathers, which are wholly green. The legs are stout, and of a bluish-grey or leaden colour.

AMAZONS' PARROT.

Psittacus Amazonius.—Auctorum.

Psittacus Amazonius, *Briss. Av.* 4. p. 256.—*Wagler, Mon. Psitt. in Abhand. &c.* p. 496. and 583.—*Spix. Av. Bras.* p. 45.—Le Peroquet Amazone, *Buff. Pl. Enl.* 547.—Aourou Parrot, *Shaw's Zool.* 8. p. 503. pl. 76.

The true Amazons' Parrot has so frequently been confounded and mixed up with other nearly allied species, that a description of it may not be unacceptable to our readers, especially as it is a kind frequently brought to Europe, on account of its colloquial powers, and known, like others of its con-

geners, by the common appellation of Green Parrot. In dimensions it is inferior to the Festive Parrot, its length seldom exceeding twelve inches: the bill is less powerful, but similar in form, its colour orange-yellow, with a whitish tip. The cheeks, chin, and angles at the base of the bill are yellow; the forehead and eye-streak violet-purple, the bases of the feathers being yellow: the occiput and hind-neck are green, each feather edged with black. The rest of the upper and under plumage is of a fine green. The four lateral tail-feathers nearest the two middle ones have their outer webs green, verging to yellow at the base and apex; the inner webs yellow, with a large central red spot, intersected by a transverse green one: the fifth and sixth have the basal half of the outer webs green, the remainder yellow; the inner webs with their bases and tips yellow, the middle part being green: the next is distinguished by a pale red spot; and the remainder have their bases green, which passes into yellow near the tips. The margin of the carpus or lower ridge of the wing is frequently of an orange-red. The first primary quill is black above: beneath, the inner web exhibits at the base a rich tinge of verdigris-green, the second, third, and fourth, have their exterior webs green, with azure reflections; the fifth, sixth, seventh, and eighth, are green from the base to the middle, the other part being deep azure blue, the inner webs black; the ninth to the twelfth greenish near the base, passing forwards into brownish-red, which,

near the ends of the feathers, becomes of a deep blue: the under surface of all the quills is of a copper or verdigris-green colour. This bird inhabits South America, being common in Guiana and Brazil, particularly near the banks of the river Amazons. It feeds upon fruits, particularly that of the *Rhizophora Mangle*, in the decayed trunks of which trees it also deposits its eggs. It is also very destructive to the orange plantations. It is easily tamed, and learns to repeat with facility a number of words and short sentences. When alarmed or excited, it erects the nuchal feathers.

ASH-COLOURED OR GREY PARROT.

Psittacus erythacus.—LINNÆUS.

PLATE X.

Psittacus erythacus, *Linn. Syst. Nat. et Auct.*—Psittacus Guianensis cinereus, *Bris.* t. pl. 310. No. 49.—Peroquet cendre de Guinée, *Buff. Pl. Enl.* 311.—Ash-coloured Parrot, *Shaw's Zool.* 8. pl. 486.

MANY of our readers will recognise an old and amusing acquaintance in the characteristic figure of this well-known species, not, indeed, conspicuous for that brilliancy and variety of plumage which distinguishes the great majority of the tribe, but remarkable for its docility and mimicry, the faculty it possesses of imitating the human voice, as well as any other sound, its never-ceasing garrulity, and its clear and distinct articulation. In most of these particulars, it surpasses the rest of its congeners, on which account it has always been held in high estimation by the bird-fancier and lover of living curiosities. This we learn from the large sums that have at all times been offered and given for highly-gifted or well taught individuals. Even as early as A. D. 1500, we read of a Parrot at Rome, supposed to be of this species, for which 100 gold pieces were given

E. Lear del.

Lizars sc.

PSITTACUS ERYTHACUS.

Ash-Coloured or Grey Parrot.

Native of W. Africa.

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by a Cardinal. Its merits, however, appear to have been of a kind well calculated at that period to create an unusual degree of astonishment, and a feeling of the marvellous, as it had learned to repeat with clearness, and without hesitation, the whole of the Apostles' creed. Willughby, also, in his old and excellent work on Ornithology, mentions the high prices brought by Parrots of various species in Holland, and other parts of the Continent. To enumerate the various anecdotes related of this bird, would not only occupy more space than the nature of our work will allow, but would, in a great measure, be only repeating what has already so frequently been told in the works and compilations of other writers. We shall only observe, that, in many of the marvellous stories recorded of Parrots, particularly all such as relate to answers seemingly appropriate and consequent to questions put to them, and which some authors would almost seem to imply were dictated by intelligence, or that the birds really understood the import of what was asked, are merely the result, under accidental and fortunate circumstances, of what had previously been taught them by frequent repetition, to articulate by rote.

The imitative propensity of the Parrot, amusing as it in general may be, is, however, sometimes to be guarded against, and productive of untoward accidents, as the following instance related to us will shew. A Parrot which was kept upon a quay in a sea-port town, had learned the term, with its appro-

priate enunciation, used by carters in backing, that is, making the horse, by a retrograde motion, place the cart or waggon in the most convenient station for loading or unloading. This term the bird one day made use of, when a cart and horse had imprudently been left unattended for a short time, and the horse, obeying the mandate of the bird, continued to keep moving backwards, till both were precipitated over the quay, and the unfortunate animal was drowned.

The Grey Parrot is a native of western Africa, from whence it appears to have been imported to a very early period; but common and well known as it is in a state of captivity, its peculiar habits and economy in a state of nature are still but little and imperfectly known. Like most of its kind, it is said to breed in the hollows of decayed trees; and the instinctive propensity for such situations does not appear to desert it even in a state of captivity; for Buffon mentions a pair in France, that, for five or six years successively, produced and brought up their young, and that the place they selected for this purpose was a cask partly filled with saw-dust. Its eggs are stated to be generally four in number, their colour white, and in size equal to those of a pigeon. In its native state, the food of the Parrot consists of the kernels of various fruits, and the seeds of other vegetables; but when domesticated, or kept caged, its principal diet is generally bread and milk, varied with nuts, almonds, &c., and even pieces of dressed

meat. When feeding, it often holds its food clasped in the foot, and, before swallowing, masticates or reduces it to small pieces by its powerful bill and palatial cutters. This member, so unlike that of other frugivorous birds, is admirably calculated for the principal offices it has to perform, viz. breaking the shells of the hardest fruits and seeds, and as a strong and powerful organ of prehension and support; for few of our readers but must have observed that the bill is always first used, and chiefly depended upon when a Parrot is caged, in climbing or moving from one position to another. The longevity of the feathered race, we believe, in general far exceeds what is commonly supposed, at least if we may judge from the age attained by various birds, even when subjected to captivity and confinement. Thus, we have instances of eagles living for half a century: the same of ravens, geese, and other large birds, as well as among the smaller kinds usually kept caged. The Parrot appears to yield to none of these, and several instances are upon record of their having reached the remarkable age of sixty or seventy years. Among these, none is more interesting than that of an individual mentioned by M. Le Vaillant, which had lived in a state of domesticity for no less than ninety-three years. At the time that eminent naturalist saw it, it was in a state of entire decrepitude, and in a kind of lethargic condition, its sight and memory being both gone, and was fed at intervals with biscuit soaked in Madeira wine. In the time of its

youth and vigour it had been distinguished for its colloquial powers, and distinct enunciation, and was of so docile and obedient a disposition, as to fetch its master's slippers when required, as well as to call the servants, &c. At the age of sixty, its memory began to fail, and, instead of acquiring any new phrase, it began to lose those it had before attained, and to intermix, in a discordant manner, the words of its former language. It moulted regularly every year till the age of sixty-five, when this process grew irregular, and the tail became yellow, after which, no farther change of plumage took place. It is subject to variety, as shewn in the figure of Edwards, where the ground colour is mixed with red. In size it measures about 12 inches in length. The bill is black, strong, and much hooked, and the orbits, and space between them and the eyes, covered with a naked and white skin The whole of the plumage, with the exception of the tail, which is of a bright deep scarlet, is of an ash-grey colour, deepest upon the back, and the feathers finely relieved and margined with paler grey. The irides are of a pale yellowish-white, the feet and toes grey, tinged with flesh-red.

The limited number of engravings not admitting of a figure illustrative of every group, we can only remedy the deficiency by a description of such species as are remarkable, or typical of their respective genera. The Short and Even-tailed Parrots, as previously observed, have been divided by Wagler into

several generic heads; but whether all of these will stand the test of such a separation, or are only to be regarded as slightly aberrant forms of the genus *Psittacus*, must depend upon a strict analysis of all the species. We shall, however, here consider them as forming distinct groups, detailing the principal characters of each as given by that eminent naturalist. The first is that of *Eclectus*, represented by the *Eclectus Linnæi*, Wagler, and *Ec. grandis*, Wagler (the *Psittacus grandis* of Latham, &c.), which differ from his restricted genus Psittacus in the form of the bill, the under mandible being narrower, the cere at the base scarcely visible, and the nostril placed farther back, and hidden by the feathers or the brow. The texture of the plumage upon the head and neck is also different, being long and silky. He considers them to represent the parrots of America, Africa, and Asia, and also to bring them nearer in connexion with the larger lories. The following is a description of the

GRAND ELECTUS.

Electus grandis.—Wagler.

Electus grandis, *Wagler*, *Mon. Psitt.* in *Abhand.* &c. pp. 495, 472.—Psittacus grandis, *Kuhl's Consp.* p. 38, No. 50. *Lath. Ind. Orn.* i. p. 116, sp. 112, var. B.—Psittacus janthinus, *Lath. Ind. Orn.* i. p. 90, sp. 24.—Peroquet grand Lori, (male), *Le Vaillant*, *Tab.* 126.—Lori de la nouvelle Guinee, *Buff. Pl. Enl.* 683.—Grand Lory, *Lath. Syn.* i. p. 275, sp. 81; *Shaw's Zool.* viii. p. 533, pl. 80.

This elegant species, which exceeds the Amazons Parrot in size, is a native of the Moluccas and New Guinea. In appearance, and the colour of its plumage, it approaches the larger lories, a resemblance also indicated by the name given to it by Latham and others. The bill is black, with the culmen of the upper mandible rounded; the nostrils placed at the base of the bill, and concealed from view; the eyes yellow, and the ophthalmic region entirely cloathed with feathers. The head and upper neck are of a rich crimson red; the lower neck, breast, belly, and upper part of the thighs, are lilac purple; the mantle, back, scapulars, wing-coverts, and upper tail-coverts, rich scarlet, with a purplish tinge. The flexure of the wings, and outer webs of the quills, are azure blue; the vent and apical fascia of the tail yellow.

The next group indicated by Wagler is that of *Psittacodis*, the principal character of distinction

consisting in the want of the tooth or angular process on the upper mandible. The members belonging to it are also natives of Asia and Australasia, and the *Psitt. magnus*, *Psitt. Paragua*, *Psitt. Sumatranus*, and *Psitt. tarabe*, Auct., belong to it. A third group is that of *Pionus*, which embraces a variety of species belonging to Asia, Africa, and America, and which, judging from the difference of geographical distribution, it is likely may require still further division. In the form of the tongue and feet, it agrees with the genus *Psittacus* proper, but the tail is comparatively shorter, the wings longer, and, when closed, in many species extending beyond the tip of the tail. The head is large, and the body short and thick. An example of this group is

LE VAILLANT'S PIONUS.

Pionus Le Vaillantii.—WAGLER.

Pionus Le Vaillantii, *Wagler*, *Mon. Psitt.* in *Abhand.* &c. pp. 499, 614.—Psittacus robustus, *Lath. Ind. Orn.* i. p. 94.—Psittacus Le Vaillantii, *Lath. Sup.*; *Kuhl*, *Consp. Psitt.* p. 83.—Psittacus infuscatus, *Shaw's Zool.* viii. p. 523.—Peroquet à franges souci, *Le Vaill. Tab.* 130 *et* 131.—Robust Parrot, *Lath. Syn.* i. pp. 296, 100.—Damask Parrot, *Shaw's Zool.* viii. 523.

THIS is an African species, inhabiting, at a certain period, the eastern parts of that continent, as high

as latitude 32° It was first discovered and figured by Le Vaillant, who informs us, that it only resides in the woods, in the latitude above mentioned, during the season of reproduction, quitting them for warmer districts on the approach of the rainy season, after it has reared its young; and that, during these migratory movements, the flocks fly so high as to be beyond the reach of sight, though their screams or call-notes can still be heard. As usual in this family, the hollow of a tree is the receptacle for the eggs, which are four in number, in size equal to those of a pigeon, and which are incubated alternately by both sexes. The young, when first hatched, are naked, but soon become covered with greyish down. Their plumage is not perfected till after an interval of six weeks, and they remain a considerable time longer in the nest, during which they are fed by the parents, who disgorge in the manner of pigeons. In an interesting detail of their habits, he observes that they are remarkably fond of bathing, and are observed to fly every day, and at the same hour, to the water for this purpose. The hours of feeding are also very regular, and the whole day is distributed by rule—a fact we have observed to prevail among other birds. At dawn of day, the whole flight of each district assembles, and alights with much noise on one or more dead trees, according to the size of the flock, and there, displaying their wings to the first rays of the sun, recal to mind the idea of some ancient race, of simple manners, assembled on some

hill to chaunt a hymn in honour of the God of Day. The reason, however, of this assembly of the parrots, is to warm and dry their plumage, moistened and chilled by the dews of night, which in these regions is often cold, and always damp. When once warmed, and their plumage dry, they arise in small flocks, and fly around in quest of their favourite fruit, a kind of cherry, the stone of which they break, in order to obtain the kernel. This their morning's meal continues till about 10 or 11 o'clock, at which time all the separate flocks fly to the water to bathe. When the heat of day commences, they again seek the deep recesses of the woods, in order to enjoy the refreshment of the shade ; and at this time they keep a silence so profound, that not a sound shall be heard by a person sitting beneath a tree, though the branches above be crowded with legions of parrots ; but on the report of a gun, the whole flock fly off with the rapidity of lightning, with a confused mixture of the most discordant screams.

When this their time of rest is elapsed, they again disperse, in order to obtain their second or evening meal ; after which, all the flocks of the whole district reassemble with much noise and animation, and this is the signal for their second visit to the water, which is often far distant, as only the purest will please them. They are then seen confusedly and playfully rolling over each other on the margins of the pool, at times dipping their heads and wings into the water, in such a manner as to scatter it all over their

plumage, and exhibiting a most entertaining spectacle to the observer. This ceremonial being finished, they revisit the trees on which they assembled at sunrise, where they sit for some time engaged in adjusting and pruning their feathers. This finished, they fly off in pairs, each pair retiring to its peculiar roost, where they rest till morning.

The bill is large, the culmen biangulate, the tomiæ sinuated, but not distinctly toothed; its colour whitish. The head, neck, and breast are of an olive green colour, deepest upon the forehead and crown; the lores or space between the bill and eyes black. The mantle, scapulars, and wing-coverts are brownish-black, the feathers margined with green. The lower back, upper tail-coverts, abdomen, and under tail-coverts, emerald green. The ridge of the wings and thighs are bright reddish-orange. The quills and tail brownish-black, slightly tinged with green. Legs and toes grey.

In addition to Wagler's genera *Psittacodis*, *Eclectus*, and *Pionus*, which contain the other larger species of the short even-tailed Parrots, we are inclined to place in this subfamily several small species, which, in Kuhl's Conspectus, form a portion of his section *Psittacula*, and are also included in Wagler's more restricted genus of the same name. Both of these groups are, however, so constituted, as to embrace

birds of dissimilar form and habits, and widely separated in regard to their geographical distribution. In some, as those inhabiting the islands of the Pacific, the bill is slender and weak, as in the *Lories*: the tongue is also supposed to be furnished with delicate papillæ. These we have little hesitation in placing in that subfamily. Others have the bill powerful and thick, with the upper mandible strongly toothed; the wings long, and the tail short, and nearly even. To this group, the *Psittacus Swinderianus* of Kuhl, and the *Psittacus Malaccensis*, Lath., appear to belong. For the present, the title of *Agapornis* is given to them, though it is not unlikely that a farther division may be required, when their habits and economy are better known. The only illustration we can give of these diminutive Parrots is that of

SWINDERN'S LOVE-BIRD.

Agapornis Swinderianus.

PLATE XI.

Psittacus Swinderianus, *Kuhl, Consp. Psitt.* in *Nov. Act.*, &c.,p. 104, pl. 2.—Psittacula Swinderiana, *Wagler, Mon. Psitt. in Abhand.* &c., p. 621.

THIS beautiful little species is a native of Southern Africa, and was first described and figured by Kuhl, in his "Conspectus Psittacorum," under the title of *Psittacus Swinderianus;* it was included in that section named by him Psittacula, in which he placed the whole of the smaller species with short and even or slightly rounded tails—an artificial division, and established without due regard to the structure, habits, or distribution of the species. Little is known respecting its natural history, being a bird of rare occurrence, and even now only seen in a few collections. In the form and strength of its bill, it shews an affinity to the larger parrots, which is still more strongly indicated in another species, the Psittacus Malaccensis of Latham. In size it is among the smallest of its race, its extreme length being about six inches. The bill is black, strong, with the

del.t

AGAPORNIS SWINDERIANUS.

Swindern's Love Bird.
Native of S. Africa.

Lizars sc

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upper mandible emarginate. The head and nape are of a beautiful lively green, bounded by a black nuchal-collar; the neck and breast are yellowish-green; the mantle and wings are green; the lower back and upper tail-coverts are deep azure blue. The tail, which is short and nearly even, has the two intermediate feathers wholly green; the rest on each side have their basal half vermilion-red, bounded by a bar of black, the tips being green. The legs and toes are greyish-black. The wings are long, and, when closed, reach to the end of the tail.

In this subfamily we have also placed another very interesting form, from Australia; it is represented by the *Psittacus Nestor* of Latham, and now forms the type of Wagler's genus *Nestor*. This bird is supposed to form a connecting link between the Parrots and Cockatoos, though it must be confessed that more correct information respecting its history and habits is necessary, before its true situation and direct affinities can be satisfactorily ascertained. The characters of the genus *Nestor* of Wagler are:—Bill elongate, the upper mandible compressed, hooked; the tomia sinuated, but not distinctly toothed; the tip projecting, with its under surface sulcated and deeply excavated for the reception of the tip of the under mandible; under mandible narrow, compressed, slightly convex, or forming, when closed, an obtuse angle with the upper;

wings rather long, ample; tail of moderate length, and even at the end, the tips of the shafts bare, and slightly projecting beyond the feathered part. The following plate represents the

PLATE 12.

E.Lear delt

NESTOR HYPOPOLIUS.

Southern Nestor.

Native of New Zealand.

Lizars sc

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SOUTHERN NESTOR.

Nestor hypopolius.—WAGLER.

PLATE XII.

Nestor hypopolius, *Wag. Mon. Psitt.* in *Abhand.* &c., p. 505 and 696.—Psittacus nestor, *Lath. Ind. Orn.* 1, p. 110 sp. 85; *Kuhl, Consp. Psitt.* in *Nov. Act.* &c., p. 86.—Psitt. Australis, *Shaw, Mus. Lever.* p. 87.—Southern Brown Parrot, *Lath. Syn.* 1, p. 264, 70.

THIS curious and remarkable-looking bird, which, in some respects, appears to approach the Cockatoos, particularly the black species, or *Geringores*, is a native of New Zealand. Of its natural history we have no particulars in the descriptions given by Latham, Wagler, &c., these being merely confined to the form of the parts and the colour of the plumage. Its differently-shaped bill, which, in addition to a greater elongation than that of the other Parrots, possesses other peculiarities of structure, and the denuded tips of the shafts of the tail-feathers seem, however, to indicate an economy in some respects dissimilar to that of the other groups with which it is for the present associated. The bill, which is

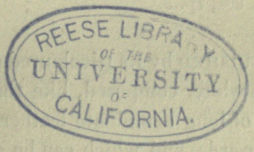
large, is of a grey colour, with the tip darker. The forehead and crown are greyish-white, slightly tinged with green; the face and ear-coverts are yellow, tinged near the base of the bill with red. The sides of the neck, breast, and abdomen are all dull red; the feathers margined with oil-green. The back and wings are of a brownish oil-green. The rump and vent are deep red. The tail is brownish-green. The legs and feet are grey, tinged with brown.

The next primary division is that of the Cockatoos, or subfamily *Plyctolophina*, Vigors, representing the Rasorial Order, in the circle of the Psittacidæ. It contains, besides the true Cockatoos, distinguished by their white or light coloured plumage, the various black or dark coloured birds belonging to the genus Calyptorynchus, Vigors, which we here designate *Geringores*, a name given to some of the species by the natives of New Holland, in which interesting country they are chiefly met with. The birds of this division are among the largest of the Parrot tribe, and most of them, in a greater or less degree, are crested. The bill in the Geringore group, though short, and nearly concealed by the projecting feathers of the face, is remarkable for its strength and depth at the base. In addition to seeds, they are said to feed upon the roots of bulbous plants. In disposition, the birds of this subfamily are generally wilder and less tractable than many of the other groups of the Psittacidæ. They breed in the holes of decayed trees, and their eggs are seldom more than two in number. The first group we have to notice is that of the genus *Plyctolophus*, Vieillot, of which the characters are:—Bill deep at the base, greatly arched and strong, the upper mandible forming nearly the fourth part of a circle, the tip

narrowed and acute, overhanging the lower mandible; the tomia or cutting edges sinuated or toothed; under mandible narrower than the upper; the tongue thick, fleshy, and smooth; nostrils lateral, in the cere at the base of the bill; head crested, the crest composed of two rows of acuminate feathers, the tip directed forwards, and which can be erected or depressed at will; cheeks plumed; tail rather short, even; plumage compact, the tips of the feathers rounded, truncate; feet robust; tarsi short and reticulated.

The Cockatoos, so called from the usual call-note of the species, form a well marked genus, readily distinguished from the other groups of the Psittacidæ by their light and uniform colour, which is white, or white tinged more or less, according to the species, with sulphur-yellow or rose-red, by their peculiar shaped crest, and by their short and even tail. The massive and powerful bill, as well as the robust scansorial feet of this section, evidently point to the situation they hold in the family; and, with the nearly allied genus Calyptorynchus and some other forms which sustain the connexion with more distant groups, they are considered as representing the Rasorial group of the family. They are natives of Australia and the Indian Isles, where they inhabit the woods and forests of these luxuriant climes. They feed upon the seeds of various trees and plants, being able, with their powerful bill, to break the stones of the hardest fruits. Their nidification is similar to

that of the great body of the Psittacidæ, the holes of decayed trees being the receptacle for the eggs and young. They are easily tamed when taken at an early age, but do not possess the imitative powers of the true Parrots, seldom being able to acquire more than two or three words besides their own peculiar note or cry of *cockatoo*. The first we have to notice is the



TRICOLOUR-CRESTED COCKATOO

Plyctolophus Leadbeateri.—Vigors.

PLATE XIII.

Plyctolophus Leadbeateri, *Vigors, Philos. Mag.* 1831 p. 55. *Lear's Parrots.*—Cacatua Leadbeateri, *Wag. Mon. Psitt. in Abhand.* 692, sp. 3.

Distinguished by its tricoloured crest of scarlet, yellow, and white, composed, like that of the other Cockatoos, of long acuminate feathers, with the tips directed forwards, and which can be erected and expanded like a fan, or depressed at the pleasure of the bird. It is a native of Australia, and was first made known and described from a specimen which came into the possession of Mr Leadbeater, well known to ornithologists, and whose name Mr Vigors has selected for its specific title. In size it fully equals, or perhaps a little exceeds, the lesser Sulphur-crested Cockatoo. The bill is of a pale greyish-white; the upper mandible strongly sinuated and toothed; the irides of a deep brown; the naked orbits whitish. The feathers at the immediate base of the bill are crimson, forming a narrow band or fillet; those of the forehead are white, tinged with red.

PLYCTOLOPHUS LEADBEATERI.

Tricolour-crested Cockatoo.

Native of Australia.

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The feathers forming the proper crest are long and acuminate, the tips bending forwards, their basal half crimson, divided by a bar of rich yellow, the remainder pure white. The whole of the body is white, tinged deeply with crimson upon the neck, breast, flanks, and under tail-coverts. The under surface of the wings is rich crimson-red. Its legs and toes are deep grey, the scales distinctly marked by lighter lines. Of its peculiar habits and economy we are unable to give any detailed account, which we greatly regret, as it is the knowledge of these interesting particulars, which point to the natural station of each individual, and mark the minute differences between nearly allied species, that give a zest to the study, and reward the naturalist for the drier and more technical parts of zoological science. Another Australian species is the Helmeted Cockatoo, *Plyctolophus galeritus*, enumerated by Mr Vigors and Dr Horsfield in their description of the Australian birds in the collection of the Linnæan Society; and as its habits are presumed to resemble in many respects those of the other species, we quote their observations, as extracted from M. Caley's Notes. "This bird is called by the natives Car-away and Cur-iang. I have often met with it in large flocks at the influx of the Grose and the Hawkesbury Rivers, below Mulgo'ey on the former river, and in the long meadow near the Nepean River. They are shy, and not easily approached. The flesh of the young ones is accounted good eating. I have

heard from the natives that it makes its nest in the rotten limbs of trees, of nothing more than the vegetable mould formed by the decayed parts of the bough; that it has no more than two young ones at a time; and that the eggs are white, without spots. The natives first find where the nests are, by the bird making *co'tora* in an adjoining tree, which lies in conspicuous heaps on the ground. *Co'tora* is the bark stripped off the smaller branches, and cut into small pieces. When the young ones are nearly fledged, the old birds cut a quantity of small branches from the adjoining trees, but never from that in which the nest is situated. They are sometimes found to enter the hollow limb as far as two yards. The nests are generally found in a *black-butted gum-tree*, and also in *Coroy'bo*, *Cajim·bora*, and *Yarrowar'ry* trees (species of *Eucalyptus*)." Our next figure represents the

E. Lear del.

Evans sc.

PLYCTOLOPHUS SULPHUREUS.

Lesser sulphur crested Cockatoo.

Native of the Moluccas.

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LESSER SULPHUR-CRESTED COCKATOO.

Plyctolophus sulphureus.—VIEILLOT.

PLATE XIV.

Plyctolophus sulphureus, *Lear's Parrots.*—Psittacus sulphureus, *Lath. Ind. Orn.* i. p. 109, sp. 81; *Shaw's Zool.* vol. viii. p. 480, pl. 73.—Cacatua sulphurea, *Wagler, Mon. Psitt. in Abhand. &c.* p. 695, sp. 7.—Lesser White Cockatoo, with yellow crest, *Edwards*, 7, t. 317.

THIS species we frequently see in confinement; for though rarely able to articulate more than a few words, its handsome appearance, docile disposition, and amusing habits, render it a great favourite with those who delight in feathered pets. It is kind and affectionate to those it is accustomed to see, and who feed and take care of it; but suspicious of strangers, whose caresses it rarely admits of with impunity. When alarmed or irritated, it erects the crest to the fullest extent, making a peculiar noise; at other times it is kept depressed, and hanging over the nape of the neck.

The general plumage of the body is white, slightly tinted upon the breast, sides, and inner wing-coverts with pale sulphur yellow. The crest, in form

like that of the other species, and auricular spot, are fine sulphur yellow. The legs and toes are grey; the irides red. It is a native of the Moluccas, and other Indian islands; but of its natural habits we have again to regret deficiency of information. In captivity, the female sometimes produces eggs, and we now have specimens by us which were laid by one at rather peculiar periods, viz. the 21st June, 21st of September, and 21st of December; but whether this resulted from the peculiar economy of the bird, as acted upon by the seasons, or was the effect of the confinement, we are unable to determine.

In addition to the species described, the following belong to this present genus, viz. *Plyctolophus Philippinarum*, Red-crested Cockatoo, a native of the Philippine Islands; *Plyct. Moluccensis*, Wag., the Great red-crested Cockatoo, which is found in the Moluccas, Sumatra, &c.; *Plyct. cristata*, Wag., also a native of the Moluccas, and the *Plyct. rosei-capillus*, Vieill. (Psittacus Eos. of Kuhl), which, however, departs from the type in the form and structure of the crest, approaching in this respect nearer to Wagler's genus Licmetis, which is represented by the *Psittacus nasicus* of Temminck, described in the 13th volume of the Transactions of the Linnæan Society, and in the "Planches Coloriées," plate 351.

Nearly allied to the Cockatoos, and included in that genus by many authors, is the Red-crowned Parrot (*Psittacus galeatus* of Latham, Kuhl, &c.) It forms the type of Wagler's genus *Corydon*, and, according to the views of that author, forms the connecting medium between the Cockatoos and the genus *Calyptorynchus* of Vigors and Horsfield, upon which we are about to enter, and for which group we propose to give the title of *Geringore*, taken from the name applied to one of the finest and largest species by the natives of Australia. The characters of the genus *Calyptorynchus* are: — Bill thick, very strong, much higher than long, wide at the base, compressed towards the culmen, greatly arch-

ed, and describing in its profile nearly a semicircle, the tip not much elongated, and bending inwards; under mandible massive, dilated, wider than the upper, toothed, and deeply emarginate in front, nearly concealed by the feathers of the cheeks; orbits and lores naked; tongue simple, smooth; nostrils large, round, lateral, placed behind the corneous base of the bill; wings ample, rounded, the second, third, fourth, and fifth quills the longest, and nearly equal, their exterior webs emarginate towards the middle; tail of mean length, broad, slightly rounded; feet and toes rather weak, the tarsi short. The width and peculiar form of the lower mandible, and the shortness of the whole bill, as compared with its depth at the base, as well as its semilunar profile, are characters alone of sufficient importance to separate the members of this group from the true Cockatoos. In addition, the crest which exists is of a different form; the tail is more elongated and rounded, and the ground or prevailing colour of the species, instead of being light, is always dark, varying from black to blackish-grey and blackish-green. So far as our limited acquaintance with their habits extends, they appear to be birds of a wilder and fiercer disposition than the generality of the Psittacidæ, and less gregarious than the conterminous genera. They are said to feed greatly upon bulbous roots, as well as on fruits and seeds; and the denuded tip of the rachis of the tail-feathers indicates something peculiar, and with which we are yet unacquainted, in their

economy. The holes of decayed trees are the receptacles for their eggs, which are said rarely to exceed two or three in number. They are natives of Australia, to which the group appears to be confined. The subject selected to illustrate the genus is the

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STELLATED GERINGORE.

Calyptorynchus stellatus.—WAGLER.

PLATE XV.

Calyptorynchus stellatus, *Wagler, Mono. Psitt. in Abhand. &c.*, p. 685, sp. 3.—Banksian Cockatoo, *Lath. Syn. Sup.* ii. var. ii. p. 92.

THIS species, which appears to bear a near affinity to the *Calyptorynchus Solandri* of Vigors and Horsf. (*Psittacus Solandri*, Temm.), and with which it seems to have been confounded, is described as a distinct species by Wagler, in his monograph of the family. The specific characters, as contrasted with those of the *Solander's Geringore*, consist in the whiter colour of the bill, the greater proportion of yellow upon the head and cheeks, and the spots of that colour upon the lesser *wing-coverts*, with some deviation in the colour and markings of the lateral tail-feathers. It is also somewhat inferior in size; in other respects the resemblance is remarkably close, but as specific distinction is well known to exist in other instances where the characters are not more prominently marked, we are justified in considering

E. Lear del.t

Lizars sc.

CALYPTORYNCHUS STELLATUS.

Stellated Geringore.

Native of Australia.

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it as a separate species, and it ought to be retained as such, unless extended observation and well authenticated facts prove it a mere variety, or some particular state of plumage, of another species, arising from age or sex. In it the typical form of the bill is prominently marked, the outline or perspective contour forming nearly a semicircle, the depth at the base, as may be seen in the figure, is very great, and considerably exceeding the length, measured from the rictus or gape to the tip. The under mandible is wider than the upper, and toothed, with the front deeply emarginate. The upper is thick at the base, compressed or cestiform towards the culmen, the tip bending inwards, and not projecting far beyond the under mandible. Its colour is greyish-white. The forehead is scarcely crested, but the feathers upon the vertex are a little elongated. The mass of the plumage is of a greenish-black, deepest upon the back and wings, where it assumes a purplish tinge. The cheeks are yellow, with some markings of the same colour on the sides of the head, and the lesser wing-coverts are speckled with paler yellow. The tail is of mean length, the two middle feathers entirely black, the lateral with their bases and tips black, the intermediate space being vermilion, with from five to seven narrow bars of black, the interior webs are margined with yellow. The shafts of the tail feathers project in the form of a bristle beyond the barbules, which appear worn down by attrition. It is a native of Australia, but unfortunately little at-

tention has hitherto been paid to the natural habits of these curious birds. They are said to feed upon bulbous roots, as well as other fruits, or rather the seeds of fruits. They are seldom seen in flocks of any magnitude, but keep more in family parties. In disposition they are wild and fierce, and do not exhibit that docility and aptness for imitation so conspicuous in other members of the family.

The subject of our next illustration, though bearing in many respects a strong resemblance to the preceding genus, is distinguished from it by the peculiar form of its tongue, which is tubular and extensile, and by the form and contour of its bill. The upper mandible is of great size, and considerably impressed, the tomia or cutting edges being bidentate or doubly sinuated. The under mandible is small in proportion, with a single emargination. The orbits and cheeks are naked, and the head is adorned with a long crest, generally pendent, but which can be erected, and is composed of long narrow acuminate feathers. The legs are naked a little way above the tarsal joint, the tarsi themselves are short. The tail is of mean length and even. It constitutes the type of Geoffroy's genus *Microglossus*, which is retained by Wagler in his *Monographia Psittacorum*. In Kuhl's Conspectus, it is the representative of his section *Probosciger*, and he considers it as a form intermediate between the Maccaws and Cockatoo, but our present ignorance of the natural habits of this

singular bird, renders it difficult to trace its true affinities, and we even feel doubtful whether the station now assigned it, is that to which it will be entitled upon a further investigation and more correct knowledge of its natural history. We propose for it the name of the

GOLIAH ARATOO.

Microglossus aterrimus. —Wagler.

PLATE XVI.

Microglossus aterrimus, *Wagler*, *Mon. Psitt. in Abhand. &c.*, p. 682, sp. 1, *Vieill. Gal. des Ois*, tab. 50.—Psittacus gigas, *Lath. Ind. Orn.* i. p. 107, sp. 75.—Psitt. aterrimus, *Gmel.* i. p. 330; *Kuhl*, *Consp.* p. 93, sp. 165.—Psitt. Goliah, *Kuhl's Consp. Psitt. in Nov. Act.*, *&c.*, p. 92, sp. 166. —Great Black Cockatoo, *Edwards*, pl. 316.—Black Cockatoo, *Shaw*, viii. 274, p. 71.

In size it is one of the largest of the known Psitticidæ, being equal, if not superior to the Red and Yellow Maccaw. The first description we have of it is that of Edwards, though he mentions that a previous figure, apparently of the same species, had appeared in a small book of prints of birds, drawn from the life, and published by S. Vander Meulen at Amsterdam in 1707. Long, however, as it appears to have been noticed, we are still ignorant of the essential parts of its history, viz. its habits and peculiar economy, which the unusual form of the tongue and other modifications of character would intimate to be widely different from those of the genus last described. It is a native of Papua, Waigeoa, New Guinea, and other eastern Australian islands.

PLATE 16.

MICROGLOSSUS ATERRIMUS.

Goliah Arafoo.

E. Lear del.

Lizars sc.

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The bill, as represented in the figure, is very large, with the tip long and very acute, projecting far beyond the under, which is small and weak in comparison. The orbits and cheeks are covered with a naked red wrinkled skin, the crest is of a greyish colour, long, composed of narrow feathers, and which the bird can erect at pleasure. The whole of the plumage is black, but glossed with a greenish-grey tinge in the living bird, from the quantity of a white powdering substance interspersed among the feathers. In museums, the specimens are observed to vary considerably in size; and Kuhl goes so far as to consider the larger individuals as constituting a species distinct from the lesser, characterising the former by the title of *Psittacus Goliah*, the smaller by that of *P. aterrimus*. Further observation, however is required to verify the views of this ornithologist, and for the present we adhere to Wagler's opinion, who considered them as identical.

In this subfamily, or in close connection with it, according to Wagler, is another remarkable form, to which he gives the generic title of *Dasyptilus*, and now illustrated by

PESQUET'S DASYPTILUS.

Dasyptilus Pequetii.—WAGLER.

PLATE XVII.

Dasyptilus Pequetii, *Wagler Mon. Psitt. in Abhand. &c.* p. 502, 601.—Psittacus Pequetii, *Less. Illus. Zool.* pl. 1.

NAMED from the hairy or setaceous nature of the feathers upon the head and neck, and the general rigid nature of the whole plumage. The dominant colour is black, in which respect it resembles the Geringores, and the bird last described, but the form of the bill (without adducing other characters) is so different from that of the species alluded to, as to make it very doubtful whether the station assigned to it is that to which it properly belongs. For ourselves, we have had no opportunity of examining or comparing it with other species, as it is a bird of great rarity, and but lately discovered, and we are indebted to the liberality of the Noble President of the Linnæan Society, for permission given to Mr Lear to make the necessary drawing, from a specimen in the collection at Knowsly Park. It is a bird

DASYPTILUS PEQUETII.

Dasyptilus.

Native of Australia.

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of considerable size, measuring upwards of twenty inches in length. The bill is not so deep at the base as in the great majority of the tribe, and its length is greater than its height. The upper mandible is but moderately curved at the base, but bends suddenly down towards the tip, like that of the Raptorial Birds, and overhangs the under, which is shorter, moderately convex and carinated, with the tip narrowed and strongly emarginated on each side. The nostrils are round, placed in the cere at the base of the bill, the orbits and cheeks naked, thinly beset with hairs, the head and upper neck is also nearly bare, being thinly covered with setaceous feathers. The tarsi and feet are strong, the former short and reticulated. The tail consists of ten rigid feathers, of mean length and rounded. The wings are ample, the first quill short, the third and fifth of equal length, the fourth the longest in the wing. The upper plumage is of a shining or velvet black, with the exception of the greater wing-coverts and upper tail-coverts, which are crimson, and the secondary quills, which have their outer webs of the same colour. The lower neck and upper part of the breast is black, the belly, vent, and thighs crimson-red.

The next subfamily or primary division of the Psitticidæ upon which we enter, is that of *Loriana*, so named from the beautiful Scarlet-coloured Lories, natives of continental India and its islands, and which appear to constitute one of its typical forms

It is the second aberrant group of the family, representing the tenuirostral tribe of the Insessores, and consequently is analogous to the order *Grallatores* in the class Aves; and to the *Glires* among the Mammalia. In conformity with these analogies, the existence of which have been traced and followed out in various departments of zoology, with such perspicuity and convincing force, by one of the first naturalists of the age,* we find the habits as well as the structure of the birds composing it, deviating in a striking manner from those of the conterminous groups, of course most conspicuously so, in such as constitute the typical or representative forms. The difference of structure to which we allude is in the shape of the bill and tongue, the former member being weaker and slenderer in its proportions than in the other Parrots, especially as regards the under mandible, which is lengthened and less convex in its contour, with the tip contracted and narrow, and the tomia or cutting edges straight and without emargination; the inner surface of the overhanging point of the upper mandible, which in the other groups is rough and like a file, with lines crossing each other at right angles, to give them a firm hold of nuts or seeds, is smooth or nearly so, and the ridge opposing the tip of the under mandible, which in the typical Parrots is prominent and strongly marked, is but slightly indicated or altogether wanting in the *Lorianæ*, as are also the prominences of the palatial

* Mr Swainson.

bones, which assist so essentially in comminuting the food of the other groups. Their tongue is not so thick or fleshy, and the tip, instead of being smooth and soft, is rough, and in some furnished with a pencil of setaceous papillæ or bristles, similar and analogous to the filamentous tongues of the tenuirostral *Melliphagidæ*. This structure, in fact, is bestowed upon them for the same purpose, and performs a similar office, viz. that of extracting the nectar of flowers, and sucking the juices of tender fruits, which it appears constitute the principal support of the members of this beautiful division. Of the various genera belonging to the subfamily, besides the true Lories, we may enumerate all the acknowledged members of the genus *Trichoglossus* of Vigors and Horsf., which also seem to enter among its typical forms, and included among these, or at least in very close connexion, are the birds belonging to that group, named by Mr Vigors *Brotogeris*, and typified by the Orange-winged Parrakeet of authors. Another interesting form belonging to it, and which appears to keep up a connexion with the genus *Palæornis* of the Maccaw subfamily, is the *Charmosyna Papuensis* of Wagler (*Psittaccus Papuensis*, Auct.), whose tail, in shape, is nearly similar to that of *Palæornis Alexandri*, but the ground or prevailing colour of its plumage is assimilated to that of the true Lories, and is of a rich and vivid scarlet. Besides the forms above enumerated, there are others of a diminutive size, chiefly inhabiting the islands of

the Pacific, which appear closely allied to the Lorianæ, and which, in all probability, will be found to enter that subfamily; most of these were included by Kuhl, in his section or genus *Psittacula*, a group apparently established to receive all the smaller Parrots, without regard to geographic distribution, or the peculiar characters exhibited by the various individuals composing it, and consequently forming an assemblage purely artificial. Want of materials to institute the necessary analysis, as well as a deficiency of information respecting the natural habits of many of these birds, precludes us at present from entering more fully into their true affinities, or speaking with more confidence of the situations they respectively hold; but we have no hesitation in at once admitting into the present division, that group which embraces the *Psittacus porphyrio* of Shaw; the *Psittacula Kuhlii* of Vigors, and several others, of which Wagler has constituted his genus *Coriphilus*.

We commence our illustrations of this subfamily with examples of the genus *Lorius*, which may be characterized as follows:—Bill moderate, compressed, the inner side of the tip of the upper mandible smooth; the under mandible lengthened, conic, with the tip narrow and entire. Tongue tubular, silky. Tail of moderate length, rounded or graduated, the feathers broad, with obtuse tips. Legs stout. For the present, we arrange under this genus all the Scarlet-coloured Lories, natives of continental

India and its islands, but whose distribution does not extend so far south as Australia. It is, however, probable that this group will require further division, and that most of the genera indicated by Wagler in his Monograph will hereafter be adopted. The structure and comparative weakness of the bill of these birds, plainly indicate that the nature of their food must be different in quality from that of the powerful billed Parrots, and accordingly we find, that soft fruits, as well as the juices of flowers, constitute their principal support. They are closely connected in affinity with that group of which *Psittacula Kuhlii*, Vigors, is a type, and with the *Lorikeets* or genus *Trichoglossus*, Vigors, which occupy their place in Australia and the islands of the Pacific. In the breadth, and the rounded tips of their tail feathers, may also be traced an approach to the broad-tails or subfamily *Platycercinæ*, with which a connexion is thus sustained. In disposition they are lively, but mild and tractable, and when domesticated, fond of being caressed. The call-note of many of the species is similar in sound to the name they usually go by, and some of them learn to speak with great distinctness. Our first figure represents the

PURPLE-CAPPED LORY.

Lorius domicellus.

PLATE XVIII.

Psittacus domicella, *Auct.*—Domicella atricapilla, *Wagler, Mon. Psitt.* in *Abhand.* x. p. 567.—Peroquet lori à collier jaune, *Le Vaill.* p. 95.—Second black-capped Lory, *Edw.* pl. 171.

THIS beautiful bird is a native of the Moluccas, and other Eastern Islands, from whence we occasionally receive it, being held in high estimation, not only on account of its elegant plumage, but for the docility it evinces, and its distinct utterance of words and sentences. It is also lively and active in its disposition, and fond of being caressed. In size it is amongst the largest of the group, measuring upwards of 11 inches in length. The general or ground colour of the plumage is rich scarlet, this tint occupying all the lower parts of the body, with the exception of a collar of yellow upon the upper part of the breast. The neck, back, upper tail-coverts, and basal part of the tail, are also of the same colour. The

E. Lear delt.

LORIUS DOMICELLUS.

Purple-Capped Lory.

Lizars sc.

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crown of the head is blackish-purple in front, passing into violet-purple on the hinder part. The wings on the upper surface are green, the flexure and margins violet-blue, as are also the under wing-coverts. The feathers of the thighs are azure-coloured exteriorly, their basal parts being greenish. The bill is orange yellow; the under mandible conic, and narrow towards the tip. In this species, the tongue exhibits in an inferior degree the filamentous character so characteristic of the division, and it is probable that, with three or four others, such as *Lorius puniceus*, *gurrulus*, &c., it will be found necessary to separate them from such as exhibit the tubular and papillary structure of that member in greater extent and perfection.

The next form we have to notice is one of great interest, partaking of the essential characters of the Lories, in the form and structure of its bill and tongue, as well as in the prevailing tints of its plumage. At the same time, it shews a strong analogy to the Ring-Parrakeets, or members of the genus *Palæornis*, in the peculiar form of its tail, which nearly resembles that of Palæornis Alexandri. By Wagler it is considered as generically distinct from the other Lories, as well as from the *Trichoglossi*, or Lorikeets, and of it he institutes his genus *Charmosyna;* but as no other species has yet been discovered, and the prolongation of the two mid-

dle tail-feathers appears to be the only character of distinction, we have for the present retained it as an aberrant form of the genus Lorius. It is the

E. Lear del.

CHARMOSYNA PAPUENSIS.

Papuan Lory.
Native of Papua.

Lizars sc.

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PAPUAN LORY.

Charmosyna Papuensis.—Wagler.

PLATE XIX.

Charmosyna Papuensis, *Wagler, Mon. Psitt.* in *Abhand.* &c., p. 555.—Psittacus Papuensis, *Lath. Ind. Orn.* vol. i. p. 88, sp. 20.—Psitt. omnicolor, *Lich. Catal. Rer. Nat. Rar.*, p. 5, No. 48.—La Peruche Lory Papou, *Le Vaill.* p. 9, t. 77.

To great elegance of form, this species unites a plumage of the richest description, the ground-colour of the body being of a deep but brilliant scarlet, relieved in parts with deep azure-blue, yellow, and green. The tail, or at least the two narrow central feathers, greatly exceed the rest of the body in length, as they measure upwards of 11 inches, while the former does not exceed 6 ; the lateral feathers are regularly graduated, as in the other Lories, the longest measuring about 4 inches, or one-third the length of the two intermediate plumes. The bill is of an orange-red colour ; the upper mandible is long, with the tip or hooked part projecting far beyond the under one, which is conic and narrow. The tongue is similar in structure and appearance to that

of the other members of the group, the tip being furnished with delicate papillæ. Upon the vertex and nape are two irregular bars of azure, margined with purplish-black. The lower parts of the tibiæ, lower back, and rump, are also of a deep azure. Upon the sides of the breast and thighs are patches of rich yellow. The wings are green; the interior webs of the quills blackish. The elongated tail-feathers are pale grass-green, passing towards the tips into yellow; the lateral have their basal half dark green, the remainder deep saffron yellow. This lovely species is an inhabitant of Papua, and other parts of New Guinea, and, as might be expected in countries rarely visited by the naturalist, little is known of its history or peculiar habits. Its remains, like those of the birds of Paradise, frequently reach us in a mutilated state, being deprived of the legs, and often wanting the long feathers of the tail; and from such specimens have been derived the imperfect descriptions of various authors.

We now enter upon an Australian group, which, in that division of the globe, takes the place of the Indian Lories. The members belonging to it, instead of having the ground or prevailing colour of the plumage of a red or vermilion tint, have it green, of brighter or deeper shades, according to the species, variegated, however, in many of them, with masses of the first-named colour. In this genus, the tail is more elongated than in the true Lories, and regular-

ly graduated, with the tips of the feathers narrow; the wings are also narrow and pointed. It constitutes Vigors's genus *Trichoglossus*, and is thus characterized:—Bill subelongate, compressed, weak, the inferior mandible slightly convex, longer than high, narrowed towards the tip, with the margins thin and entire; inner surface of the projecting tip of the upper mandible smooth, or but slightly striated; tongue furnished near the tip with a pencil of bristly papillæ; wings of moderate length, narrow, the first quill longest, the second and third a trifle shorter, the webs entire; feet, the tarsi short, feathered below the joint; toes strong, with the soles broad and extended; the claws greatly falcated, strong and sharp; tail graduated, with the feathers narrowing towards the point. The members of this genus are birds of elegant form, and some exhibit a great variety and richness of plumage; they are strictly arboreal and scansorial, as indicated by the form and strength of their feet and claws. In the quality of their food, and the structure of their tongue, they shew their typical station in this representative section of the Tenuirostral Tribe, their principal nutriment being derived from the nectar of flowers; they also eat or suck the juices of the soft or exterior portion of various fruits, but do not attempt the kernels or actual seeds, which constitute the general and favourite pabulum of the rest of the Psittacidæ. In their contour, and the indications of a nuchal collar which several of the species possess, we also trace a resem-

blance to the *Parrakeets*, or genus Palæornis, Vigors · and this analogy we might expect to find, if, as we suppose, the Parrakeets in their own circle constitute the Tenuirostral type. In the present genus, we are also induced to retain the Orange-winged Parrot of authors (Psittacus pyrrhopterus), for which bird Mr Vigors instituted the genus *Brotogeris*, as we cannot observe any character of sufficient importance to warrant a generic separation, the only difference seeming to be a slight elongation of the tip of the upper mandible; but this is rendered less abrupt by the intervention of another species, the *Trichoglossus palmarum*, in which it is of a size intermediate between that of *Trich. chlorolepidotus*, *T. Swainsonii*, &c., and that of *Trich. pyrrhopterus*. The first example we give of this genus is the

TRICHOGLOSSUS SWAINSONII.

Blue Bellied Lorikeet

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BLUE-BELLIED LORIKEET.

Trichoglossus Swainsonii.—Jardine and Selby.

PLATE XX.

Trichoglossus hæmatodus, *Vig.* and *Horsf.* in *Linn. Trans.* vol. xv. p. 289—Trichoglossus multicolor, *Wagler, Mon. Psitt.* in *Abhand.* &c., p. 553.—La Peruche à téte bleu, Male, *L'Vaill. His. des Per.* i. pl. 24.—Peruche des Moluques, *Buff. Pl. Enl.* No. 743.—Blue-bellied Parakeet, *Brown, Ill. of Zool.* pl. 7; *Illus. Orn.* pl. 3.—Blue-bellied Parrot, *White, Voy. N. S. W.*, plate at p. 140.

This beautiful species is a native of New Holland, where it is found in large flocks, wherever the various species of Eucalypti abound, the flowers of those trees affording an abundant supply of food to this as well as to other species of the Nectivorous Parrots. According to the observations of Mr Caley, as quoted by Messrs Vigors and Horsfield in their description of the Australian birds in the collection of the Linnæan Society, "Flocks of these birds may be seen in the eucalypti-trees, when in flower, in different parts of the country, but in the greatest number near their breeding places." They do not, he adds, eat any kind of grain, even in a do-

mesticated state; a fact curiously illustrative of their peculiar habits, and the situation they hold in the family of the Psittacidæ. It appears that they seldom live long in confinement, and that when caged they are very subject to fits. This in all probability arises from a deficiency of their natural food; and the instinctive feeling or appetite for its favourite diet is strongly exemplified in the fact, that one kept by Mr Caley being shewn a figure of a coloured plant, used to put its tongue to the flowers, as if with the intent of sucking them, and this it even did when shewn a figured piece of cotton furniture. By the natives it is called War-rin; the settlers call it by the name of the Blue Mountain Parrot, though the term seems to be misapplied, as it is a frequenter of the plains, and not of the hilly districts. Its flesh is excellent, and highly esteemed. This bird was confounded with two other species, viz. the *Psitt. hæmatodus* of Linnæus, and the *Psitt. amboinensis varia* of Brisson. The subject, however, has been thoroughly investigated by Mr Swainson, and the result of that investigation is given in the "Illustrations of Ornithology,*" where it is clearly shewn to be a species distinct from the other two, and as such it received the name we now attach to it, which we think it proper to notice, as it has since been designated by Wagler, in his Monograph of the Parrots, as the *Trichoglossus multicolor*.

* Illustrations of Ornithology by Sir William Jardine, Bart. and P. J. Selby, v. 2. part 8. pl. 112.

Mr Lear's beautiful and accurate figure renders it almost unnecessary to give a description of the plumage; but as the bird has so frequently been confounded with two other species, it may perhaps be satisfactory to some of our readers to give it in detail. Length about 13 inches, of the tail alone 6 inches; bill, in the dead bird, pale saffron yellow, in the living, inclining to orange; head and throat of a fine bluish-purple, the feathers rigid and subulate, upon the lower part of the throat they are more inclined to lavender purple, and lose the rigid and subulate character; nuchal collar yellowish or vivid silken green; lower neck and breast bright vermilion-red, passing on the sides of the breast into rich king's yellow; middle of abdomen of a deep imperial purple, the feathers towards the sides vermilion, tipped with vivid green; hypochondria green, the basal part of the feathers varied with vermilion and yellow; tibial feathers vermilion-red; under tail-coverts, with the base of the feathers, red, the middle part yellow, the tips green; under wing-coverts rich vermilion-red; margin of the wings and all the upper plumage bright grass-green; the feathers upon the lower part of the back of the neck with their bases vermilion, margined with yellow; tail with the four middle feathers entirely green, the remainder of the lateral feathers with part of the inner web rich yellow, increasing in extent to the outermost, where the whole of the web, with the exception of a small spot at the tip, is of that colour: quills with the inner webs dusky, and

each with a large oval central spot of king's yellow, forming a broad fascia on the under side of the wings; legs and toes grey, the lateral membranes broad; the claws strong and greatly hooked.

The next figure represents another beautiful species of this group: it is the

TRICHOGLOSSUS VERSICOLOR.

Lizars sc.

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VARIED LORIKEET.

Trichoglossus versicolor.

PLATE XXI.

Trichoglossus versicolor, *Lear's Parrots.*

NEARLY allied to the *Trich. Swainsonii*, in form and general aspect, another lovely species has lately been discovered in New Holland, which has received the appropriate specific name of *versicolor*, the colours of which the plumage is composed being greatly varied, and presenting to the eye an assemblage and contrast of brilliant tints, as exhibited in the accompanying engraving, and in still greater perfection in the full-sized figure contained in Mr Lear's splendid work on the Psittacidæ. It appears to possess all the typical characters of the group; but we have no information respecting its peculiar habits in its wild or natural state.

From species possessing a richly-varied plumage, we now pass to others, where it is plainer, and of a more uniform tint, but which otherwise exhibit all the essential characters of the genus. In dimensions

also they are generally inferior, and one of them, the Trich. pusillus, ranks among the pigmies of the Psittacean family. The species selected for representation is the

E. Lear del.

TRICHOGLOSSUS PYRRHOPTERUS

Orange-Winged Lorikeet.

Native of the Sandwich Islands.

Lizars sc.

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ORANGE-WINGED LORIKEET.

Trichoglossus pyrrhopterus.—Wagler.

PLATE XXII.

Brotogeris pyrrhopterus, *Vig. Zool. Journ.* ii. p. 400.—Psittacus pyrrhopterus, *Lath. Ind. Orn. Sup.* p. 22, No. 7; *Vig.* in *Zool. Journ.* i. 535.—Orange-winged Parrakeet, *Lath. Syn. Sup.* ii. p. 90, No. 16.

From this bird, which Mr Vigors described in the first volume of the Zoological Journal, under Latham's title of the Orange-winged Parrakeet, he afterwards formed his genus *Brotogeris;* but, as we have previously observed, the characters upon which it is instituted seem to vary so little from those of *Trichoglossus*, that we have followed the example of Wagler, and retained it in the latter genus, in close association, however, with *Trichoglossus palmarum*, another *Pacific* species, which, as a slightly aberrant form, seems gradually to lead to other and stronger billed groups of the Psittacidæ. It is a native of the Sandwich Islands, and not of the Brazils, as at first supposed by Dr Latham; and the two individuals which we well recollect seeing, when in Mr Vigors's possession, were brought to England in the

same vessel which conveyed hither the late unfortunate King and Queen of these Islands. As any information tending to elucidate the habits and manners of species cannot fail to be equally interesting to the naturalist and the general reader, we make no apology for quoting largely from the account given by Mr Vigors of these two lovely birds. "In their manners," he observes, "they are peculiarly interesting. Strongly attached to each other, like the individuals of the small species, so well known in our collections, and which we familiarly style *Love Birds*, they assert an equal claim to that title, if it is to be considered the reward, or the distinctive sign of affection. They will not admit of being separated even for a moment; and, whether in their cage or at liberty, every act and every movement of one has a reference to the acts and movements of the other. They are lively, active, and familiar, distinguishing and following those who attend to them, with perfect confidence, but *always in concert*." Their movements, he adds, are less constrained than those of Parrots in general, approaching, both on the ground and the wing, to the quick pace and short and rapid flight of the more typical perchers. They have apparently less powers of voice than the greater part of the family, uttering only a sort of chirrup like that of the sparrow; this is shrill, it must be confessed, at times when rivalship or any particular incitement induces them to exert it to the utmost: but at other times it is far from unpleasing, more

especially when they employ it, as is their custom, either in welcoming the approach of the morning, or acknowledging the attentions of a favourite." In size it is inferior to the species already described, measuring not more than 7½ inches in length. The bill is pale, slightly tinged with pink; the upper mandible with the tip attenuated and long; the tomia slightly sinuated. The crown of the head and parotic region is of a delicate greenish-blue; the sides of the neck and throat, and indistinct nuchal collar, are greyish-white; the rest of the body, with the exception of the under wing-coverts, which are of a rich orpiment-orange colour, is green, palest upon the flanks, thighs, and the margins of the tail-feathers. The feet are of a pale flesh-colour

Nearly allied to the genera *Trichoglossus* and *Lorius*, in the form of the bill, the tongue, and feet, is another beautiful group inhabiting the islands of Australia, and characterized by Wagler, in his monograph of the family, under the title of *Coriphilus*. They feed upon the softer fruits, particularly that of the *Musa Paradisiaca*, and live amid the foliage of the highest palm-trees. The structure of the tongue in these birds is curious, according to the naturalists who accompanied Duperney in his "*Voyage autour du Monde*:" it is tipped by a kind of crown, formed by a number of long stiff filaments, regularly placed, and which M. de Blainville considers as the nervous elongations or papillæ of the lingual or gustatory branch, enormously developed. Their voice is weak and sibilous; and, when alarmed or irritated, they erect the feathers of the hind-head, which are narrow and elongated. The sexes are remarkable for their affection to each other, and direct all their movements in concert. The characters of the genus are:—Bill small, the upper mandible without a distinct tooth, the cere large and prominent, the under mandible weak, slightly convex. Nostrils open, round, in the basal cere. Tongue papillose near the tip. Head crested. Wings long and

pointed. Tail of moderate length, broad, rounded at the tip. Feet strong. Claws falcate. This group is illustrated by

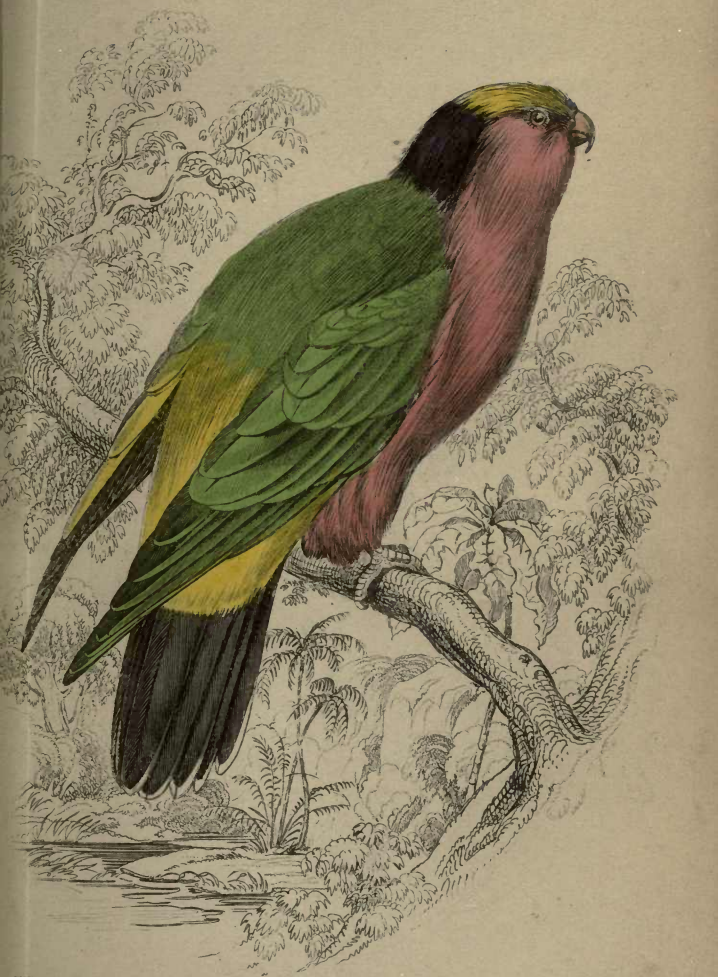
KUHL'S CORIPHILUS.

Coriphilus Kuhlii.—WAGLER.

PLATE XXIII.

Coriphilus Kuhlii, *Mon. Psitt. in Abhand. &c.* p. 494, and 566.—Psittacula Kuhlii, *Vig. in Zool. Journ.* v. 1. p. 412. pl. 16.—*Lear's Parrots.*

THIS beautiful little bird was first described and figured by Mr Vigors in the Zoological Journal, from one of several specimens received by Mr Cross, formerly of Exeter Change, and now proprietor of the Surrey Zoological Gardens, from an island in the vicinity of Otaheite. In beauty of plumage, and elegance of aspect, it yields to few of the race; but it appears to be of a wild and timorous disposition, at least in regard to strangers, as Mr Vigors states that he was unable to enter into its characters to the extent he wished, from its impatience of observation and a near approach. Its voice is weak and sibilous, similar to the other species of this group, which contains, in addition to the present, the *Cor. sapphirinus*, Wag. (Psittacus Taïtanus, Auct.), *Cor. euclorus*, Wag. (Psitt. fringillaceus, Lath., Kuhl, &c.), and the *Cor. solitarius*, Wag. (Psitt. Phigy, Bechst., Kuhl,



E. Lear del.

Lizars sc.

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&c.) The bill is small and short, of a red colour. The irides are composed of three circles, the exterior being red, the second grey, and the third or inner yellow. The forehead and crown are of a lively green, the double occipital crest is of a rich violet-purple, and composed of long narrow feathers, which it can erect at pleasure, but most frequently when irritated or alarmed. The face, fore-neck, breast, and abdomen, are blood-red, the thighs of a deep purplish-red, the vent and upper tail-coverts are sulphur-yellow. The hind-neck, the back and wings are of a lively yellowish-green. The tail, which is pretty long and broad, is red, tinged with purple, the tips of the feathers green. The legs and toes are red, the latter short and strong; the claws are black and hooked.

Another very beautiful and interesting bird, which appears to belong to this little group, is the Psitt. Taitensis, Gmel.:—Blue, but having the throat, fore part of the neck, and cheeks, white. It frequents the very summits of the cocoa-trees, examining their flowers at the moment of bursting, for the sweet liquid which is there abundant.

Apparently in near connection with Wagler's genus *Coriphilus*, in the weak structure of the bill, and in the length and shape of the wings, is another group of diminutive Parrots, inhabiting the Indian and Australian islands, for which we adopt the title of *Psittaculus*, and which, we believe, will enter

into the present subfamily, though we cannot speak positively as to the structure of their tongue, or whether it is furnished with papillæ similar to the members of the other nectivorous groups. Our figure represents what we suppose to be the young Male of the

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E. Lear del.ᵗ

Lizars sc.

PSITTACULUS GALGULUS.

Sapphire-Crowned Psittacule.

Native of the Indian Islands.

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SAPPHIRE-CROWNED PSITTACULE.

Psittaculus galgulus.—WAGLER.

PLATE XXIV.

Psittaculus vernalis, *Swains.* 2*d Series Illust.* (young male).—Psittacus galgulus, *Lath. Ind. Orn.* v. i. p. 130, sp. 148. (exclu. var. B.)—Psitt. vernalis, Id. i. 130, sp. 147.—Petite Perruche de Pérou, *Pl. Enl.* 190. f. 2.—Sapphire-crowned Paraket, *Edwards*, pl. 293. f. 2.—*Lath. Syn.* i. 312, sp, 117.—Vernal Parrakeet, *Lath. Syn.*—*Swains.* 2*d Series Illust.*

MR SWAINSON, in the Second Series of his beautiful Illustrations, has figured and described this bird nearly in the same state it is represented upon our plate, under the title of *Psittaculus vernalis*, supposing it a distinct species, or at least not aware that it was the young or immature male of the *Psittacus galgulus* of authors. This, at least, is the opinion of Wagler, who, in his "*Monographia Psittacorum*," has described it as such, and brought the synonymes of these two supposed species together. As to the correctness of his views in so doing, we are bound, in the first instance, to consider them as being so, presuming that the evidence upon which he established their identity was satisfactory and con-

clusive; for ourselves, we have not had an opportu nity of tracing these birds through their different stages, but we know, that, in size, and in a great measure in colour, they nearly agree, and Mr Swainson himself has noticed in his description the resemblance of the *vernalis* to the *galgulus*, in the peculiar colour of the under surface of the wings, without, however, any remarks or conjecture as to the probability of their belonging to the same species, under different states of plumage or age. In retaining the generic title of *Psittaculus* for this and some other diminutive forms belonging to the Indian islands and those of Australia, we do not include all the species embraced by Kuhl's section of that name, or even the genus of Wagler, which, though more restricted, admits of birds marked by strong differential characters, and widely separated, so far as regards their geographical distribution. In the state we have figured it, the upper parts are of a fine lively green, with the exception of the rump and upper tail-coverts, which are crimson-red, and it shews but a slight indication of the fine blue, which marks the crown of the adult. In the mature state, also, the throat, instead of being orange-coloured, is of a fine red, and a crescent of orange-yellow encircles the lower part of the hind neck. The bill in the adult is reddish-black; in the young and female it is red.

We now arrive at the fifth or fissirostral division of the *Psittacidæ*, which, by Mr Swainson, has been designated by the name of *Platycercina* (Broad-tail), the members of the genus *Platycercus* of Vigors and Horsfield being considered as its typical representatives. Of the other groups which belong to this section, we only venture to speak with diffidence, not having had an opportunity, as well from want of time as of materials, to make that strict analysis of the species which is required to trace out with certainty the true affinities, and exact station of each. We have sufficient data, however, to believe, that the ground Parrakeets (gen. *Pezoporus*, Illig.), the beautiful miniature Maccaw-looking species belonging to the genus *Nanodes*, Vigors, the two species composing Wagler's genus *Nymphicus*, represented by the *Psitt. sisetis* and *Psitt. Novæ Hollandiæ* of authors, and some other forms, among which, perhaps, the *Psittacus Platurus* of Temminck's "Planches Coloriés" may be included, enter into it. Those interesting species which inhabit Madagascar, and known by the name of Vasas, viz. *Psitt. niger* and *Psitt. mascarinus*, Linn., forming Wagler's genus *Coracopsis*, also shew a decided affinity in form and habit to the true *Platycerci*, and there is little doubt belong to the division. To the genus *Palæornis*, Vigors, which we have placed among the *Macrocercinæ*, or Maccaw section, an

approach is shewn in several species. Thus, it is strongly indicated by the resemblance the *Palæor, Barrabandi*, an Australian species, which stands upon the confines of the group, bears to some of the less typical Broad-tails, in which that member in part loses its broad and depressed form. It is also visible in the wings and tail of that lovely species, the *Nanodes discolor*, in which the second, third, and fourth quills lose the distinct emargination of the outer web, and the two middle tail-feathers assume, in a great measure, the shape of those peculiar to the Ring-Parrakeets. The connection of the present with the preceding subfamily is supported by some of the Lories, in which the bill is comparatively strong, and the tongue loses in part its peculiar structure, and its approach to the short and even-tailed Parrots is shewn in the wide and slightly graduated tail of *Platycercus scapulatus*, as well as in the Madagascar species *Psitt. niger* and *mascarinus*. The members of this family are distinguished from the rest of the *Psittacidæ*, by their slender and elevated tarsi, and the less falcated form of their claws. Their wings also are shorter, and rounded, the first quill-feather being inferior to some of the succeeding ones. In consequence of this formation, their habits are less strictly scansorial than those of the typical Parrots; but the deficiency is amply compensated by the ease and agility with which they move upon the ground, where their actions partake in a great measure of that freedom which distinguishes so many of the

scansorial order, but which is almost denied to the typical Parrots, whose movements upon a plain surface are to a great degree awkward, and constrained. This formation is carried to the greatest extent in the genus *Pezoporus*, Illiger (Ground Parrot), in which the tarsi and toes are long and slender, and the claws nearly straight, indicating those terrestrial habits from which it has derived its name. The *Platycercinæ* are birds of elegant and graceful form, and their carriage and actions are in accordance with it, as they display an activity and liveliness of motion far superior to that of the true scansorial species, and more in character with that of other birds. In richness and diversity of plumage, also, they yield to none of the tribe, whether we admire it in the varied hues of the genus *Platycercus*, or in those smaller species belonging to the genus *Nanodes*, Vigors, which have aptly been termed miniature Maccaws. Most of the members of this division also shew a decrease in the power of flight, their wings being short and rounded, as indicated by the relative length of the quill-feathers. Not having a figure illustrative of the Madagascar species, which must be considered an interesting form in this division, we commence with the genus *Platycercus*, Vigors and Horsfield. The characters are:—Bill rather short, deeper than long, the upper mandible with the culmen indistinct, broad and rounded, bulging on the sides, the tomia with a strong emargination or tooth, the under mandible short, very

convex, deeply emarginate, with the tip broad, short, and quadrate. Palatial cutters large, and fully developed. Tongue simple, smooth. Wings of mean length, rounded, the first quill considerably shorter than the second and third, which are the longest, and nearly equal, the second, third, fourth, and fifth with their external webs abruptly emarginated a little behind the middle. Tail broad and depressed, rounded or subgraduate, the feathers with their tips rounded. Feet with the tarsi elevated and slender. Toes slender, claws rather long and slightly falcated.

The species belonging to this beautiful genus are already very numerous, and additions are constantly being made to it, as our knowledge of New Holland is extended, of which interesting country the majority of those already discovered are natives. They are of active habits, and are usually seen in large flocks, except during the period of reproduction. They feed upon seeds, particularly upon the grasses and Cerealea, and frequently do much damage in recent settlements to the ripening as well as to the new sown maize and wheat. The first species we have to notice is considered by Mr Vigors as the type of the genus: it is the

E. Lear del.

Lizars sc.

PLATYCERCUS PENNANTII

Pennantian Broad-Tail

Native of New Holland.

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PENNANTIAN BROAD-TAIL.

Platycercus Pennantii.—Vig. & Horsf.

PLATE XXV.

Platycercus Pennantii, *Vig. & Horsf. Linn. Trans.* v. 15. p. 250.—*Wagler, Mon. Psitt. in Abhand. &c.* p. 535, pl. 17—Psitt. Pennantii, *Lath. Ind. Orn.* p. 90, No. 26.—Psitt. gloriosus, *Shaw's Nat. Mus.* pl. 53.—Psitt. elegans, *Kuhl, Nov. Acta, &c.*, v. 10. p. 55, pl. 89.—Perruche à large queue, *Le Vaill. Hist. des Psitt.* pl. 79.—Pennantian Parrot, *Phill. Bot. Bay*, pl. p. 154.—*White's Journ.* pl. in p. 174.—*Lath. Gen. Hist.* 11. p. 131, No. 34.

The rich crimson-red which forms the ground colour of this beautiful species, recals to mind the Scarlet Lories, and it is no doubt from this general resemblance the name of *Lory* has been given to it by the settlers in New Holland, of which country it is a native. It appears to be numerous and widely dispersed, congregating in large flocks, and frequently doing considerable damage to the wheat and Indian corn — the Cerealea constituting a favourite food with several species of this genus. On this account it is persecuted by the farmer, who endeavours to reduce their numbers by the gun, as well as by traps, in which they are readily taken. The ex-

pense and trouble incurred in their capture is, however, in part repaid, not only by a saving of their crops, but by the acquisition of a wholesome addition to the table, as this as well as other species are reported to be of excellent and delicate flavour. According to Mr Caley, whose account of this bird we quote from the Linnæan Transactions, "it is called by the natives *Dulang* and *Julang*. Like the King's Parrot (*Plat. scapulatus*), it is found in large flocks among the ripe Indian corn, both species intermixed. It varies much in colour, but as the greater part of the flock is of the colour of the female, it may also be taken for granted that they are young birds. The natives tell me it makes its nest chiefly in the Peppermint-tree (*Eucalyptus piperita*), always in the body, but never in the boughs. Sometimes it enlarges the hole through which it enters. Year after year the same place is frequented for the purposes of incubation. It makes no nest, but from the decayed parts of the tree. It has four young ones. The eggs are white. I have met with this bird in November in the most mountainous parts of the country; but I apprehend it leaves these parts in the winter."

In its motions it exhibits great activity and liveliness, and it walks upon the ground with facility, and without any of that awkward gait, so conspicuous in the typical Parrots. It is frequently kept in a tame or caged state, chiefly for the beauty of its plumage and handsome carriage, as few or none of

this division possess the imitative powers exhibited by members of other genera. The beautiful and characteristic figure from Mr Lear's drawing, and the accurate manner in which the engraving is coloured, renders it unnecessary to give a detailed description of the plumage of the adult. The young bird differs in having the under parts of an obscure green, sometimes varied with spots of red; the azure patch upon the cheeks is also of a pale colour. The mantle dusky, each feather margined with pale red, and the two middle tail feathers green. The dimensions are as follows:—Total length about 15½ inches, length of the tail 8 inches, of the tarsi ¾ths of an inch, of the upper mandible, from the gape to the tip, ¾ths of an inch, height at base nearly 1 inch.

Our next plate represents another beautiful species of the same genus: it is the

PALE-HEADED BROADTAIL.

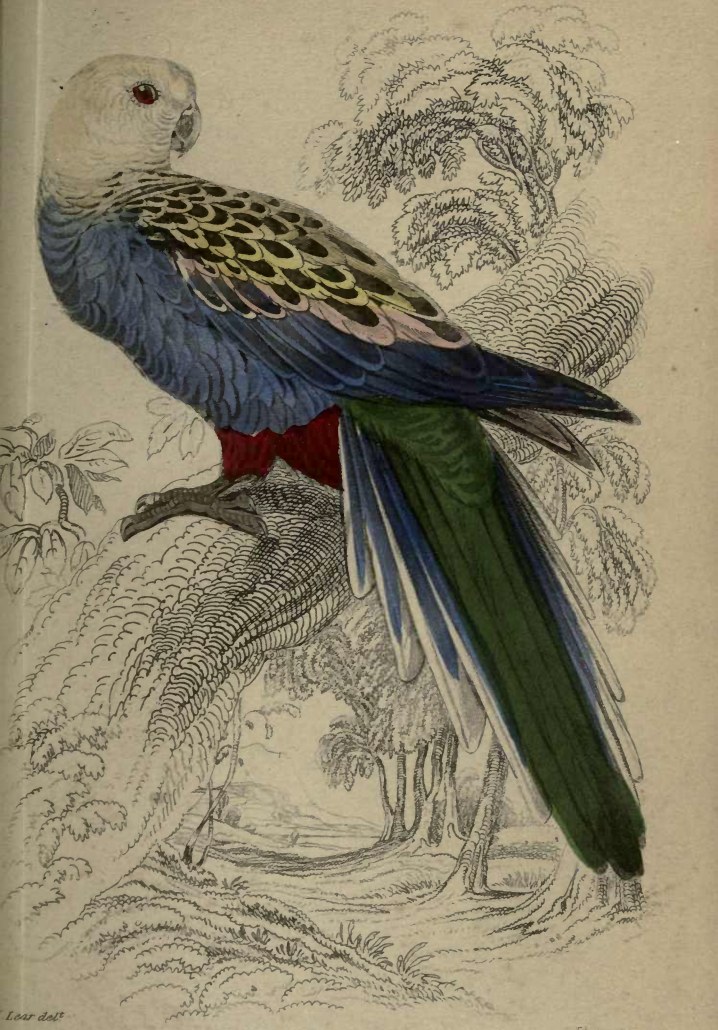
Platycercus palliceps.

PLATE XXVI.

Platycercus palliceps, *Lear's Parrots.*

This species, in form and habit, as well as the general disposition of its colours, is nearly allied to the *Plat. eximius*, Vig. (Nonpareil Parrot of Latham's Gen. Hist.), for, with the exception of the head, breast, and belly, the rest of the plumage is almost precisely the same. Like the majority of the members of this now extensive genus, it is a native of New Holland.

We regret that our limits will not admit of our giving more examples of these lovely birds, particularly of such as, by a slight deviation from the typical form, lead to other genera, or serve to connect the present subfamily with the conterminous divisions, such are some of the species inhabiting the Pacific Islands, in which the tail feathers are more attenuated towards the tip; such also the *Plat. scapulatus*, Vig. (King's or Tabuan Broad-Tail), in



Lear delt.

Vizars sc.

PLATYCERCUS PALLICEPS

Pale Headed Broad-Tail.

Native of New Holland.

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which the bill is less bulging, the tail very broad, and not so cuneiform as in the other species, and such would appear to be the New Guinea Broad-Tail (*Plat. Novæ Guineæ*, Wagler), in which the ophthalmic region is naked, a character that may perhaps imply the propriety of further generic division.

From the typical genus Platycercus, we now pass on to a group composed of birds of smaller dimensions, but eminent for their delicate form and pleasing plumage, and which have not inaptly been termed miniature analogues of the splendid Maccaws. In this lovely genus, the tail, in some species, as *Nanodes venustus*, and *Nan. pulchellus*, Vigors and Horsfield, retains to a considerable extent the breadth and depression of the Broadtails. In the *Nanodes discolor*, Vigors and Horsfield, as previously remarked, it in a great measure loses that character, and assumes the form, exhibited by the Ring-Parakeets or genus *Palæornis*, Vigors, the legs and feet as in *Platycercus*, are also slender and lengthened, and the claws but slightly hooked. This group forms the genus *Nanodes* of Vigors and Horsfield, or that of *Euphemia*, Wagler, distinguished by the following characters:—Bill short, higher than long, the upper mandible with the culmen rounded, and the tomia in the typical species without a distinct tooth or emargination, under mandible very short, inclining inwards, emarginate, with the apex broad, quadrate, and slightly sinuated. Palatial cutting membranes

large. Nostrils round, lateral, placed in the slightly raised cere at the base of the bill. Wings of mean length, subacuminate, the first quill a little shorter than the second and third, which are the longest and nearly equal, second, third, and fourth quills with their exterior webs slightly emarginate near the middle. Tail graduated, cuneiform, slightly depressed, the feathers gradually narrowing towards the tip. Feet slender, the tarsi and toes elongated; claws slightly hooked.

The first specimen of this genus is the

E. Lear del.

NANODES VENUSTUS

Blue-Banded Nanodes
Native of New Holland.

Luzus sc

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BLUE-BANDED NANODES.

Nanodes venustus.—Vig. et Horsf.

PLATE XXVII.

Nanodes venustus, *Vig. et Horsf. Linn. Trans.* b. 15, p. 278. —Euphemia chrysostoma, *Wag. Mon. Psitt. in Abhand. &c.*, p. 492 and 544, No. 2.—Psitt. chrysostomos, *Kuhl, Conspec. Psitt. in Nova Acta, &c.*, p. 50, No. 78.—Psitt. venustus, *Temminck in Trans. Linn. Soc.* b. 13, p. 121.—Blue-banded Parrakeet, *Latham's Gen. Hist.* ii. p. 188, No. 109.

This pretty species, whose extreme length is about nine inches and a-half, of which the tail alone measures four, is a native of New Holland and Van Diemen's Land, in which island it is called the Hobart Ground Parrot, an adjective epithet, which evidently points to its terrestrial habits, and these are further indicated by its lengthened tarsi and toes, which in this and *Nanodes pulchellus*, a nearly allied and still more beautiful species, closely resemble those members, as exhibited in the genus *Pezoporus*, Illig., or Proper Ground Parrot. It feeds upon the seeds of various grasses, and is generally seen upon the ground. As a site for its nest, it selects a hole or excavation in the stump of an *Eucalyptus* or gum

tree, and lays its eggs, to the number of seven or eight, upon the decayed particles of wood at the bottom of the hole, without the addition of any other materials. The eggs are white and immaculate. The bill is grey, the under mandible paler than the upper. The frontal band, which crosses from eye to eye, is narrow and of a deep azure-blue, the space between the bill and eyes gamboge-yellow. The crown of the head is green, deeply tinged with sulphur-yellow, the cheeks, throat, and the upper part of the breast are of a delicate siskin-green, passing gradually into a rich yellow, the head, neck, back, upper tail-coverts and scapulars are of a pale olive-green, with a greyish tinge, the lesser and greater wing-coverts are deep glossy azure-blue. The quills black, with their outer webs margined with azure-blue. The two middle tail feathers are pale azure, tinged with grey, the lateral with their bases azure-blue, their tips gamboge-yellow, passing gradually into primrose-yellow, the feet and claws are grey.

Our next figure represents another species of this group: it is the

NANODES UNDULATUS.

Undulated Nanodes.

E.Lear del.t

Lizars sc.

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UNDULATED NANODES.

Nanodes undulatus.—Vig. et Horsf.

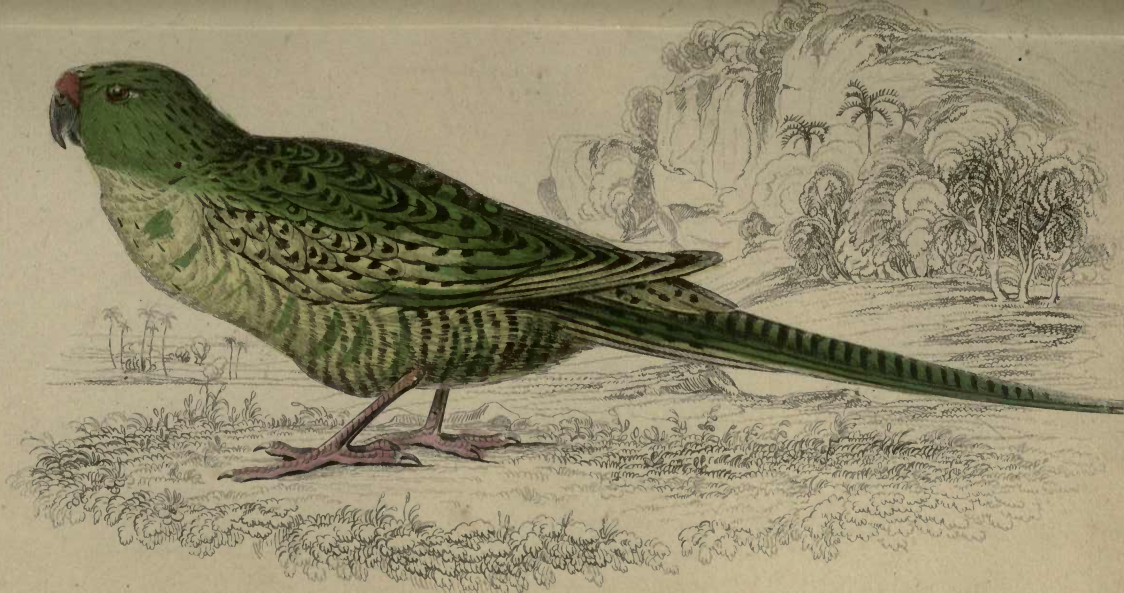
PLATE XXVIII.

Nanodes undulatus, *Vig. et Horsf. Trans. Linn. Soc.* b. xv. p. 277.—Psittacus undulatus, *Shaw's Nat. Mis.* pl. 673. —*Kuhl, Nov. Acta, &c.*, p. 49, No. 76.—Euphemia undulata, *Wagler, Mon. Psitt. in Abhand. &c.*, p. 492 and 545.

This little species, which scarcely exceeds seven inches in length, approaches still closer than its congeners in colour and appearance to the Ground Parrot, and brings the genus *Pezoporus*, Illig. into immediate connexion, with that to which it belongs. Its habits and mode of life are supposed to resemble those of its congeners, but we unfortunately possess too little information upon these interesting points, the skins we receive from abroad being mostly collected by persons who take no other interest in the pursuit except the mere acquisition of the bird, are rarely accompanied by any notes or observations illustrative of the natural history of the species they belong to. The head and nape are of a yellowish-green, with very fine dark undulating lines; upon each cheek is a small patch of azure-blue, the upper

parts of the body are of an oil-green, with darker undulations, the lower parts are plain yellowish-green. The two intermediate tail feathers are green at the base, passing towards the tips into azure-blue, the lateral feathers are green, with a broad yellow fascia in the middle. The bill and legs are grey.

In near connection with the birds we have just been describing, stands the genus *Pezoporus*, Illiger, represented by the *Pezoporus formosus*, Illiger, the Ground Parrot of Latham's General History. The characters of distinction are drawn from the still greater elongation of the tarsi and toes, and the usually straight claws, indicating habits strictly terrestrial, with trifling or greatly diminished powers of prehension. The tail also is less depressed, and the feathers are narrower and more pointed than in *Nanodes venustus* and *pulchellus*, with those slight modifications of character it might perhaps with equal propriety be considered a constituent or aberrant member of the genus to which they belong, probably its rasorial type. We retain it, however, in its present station, until a stricter analysis of the family has been instituted. It is represented by the next figure under the title of the



PEZOPORUS FORMOSUS.

Ground Parrot.

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GROUND PARROT.

Pezoporus formosus.—ILLIGER.

PLATE XXIX.

Pezoporus formosus, *Vig. et Horsf. Trans. Linn. Soc. v.* 15, p. 285.—*Wagler. Mon. Psitt. in Abhand. &c.*, p. 250.—Psitt. formosus, *Lath. Ind. Ornith.* i. p. 103, No. 60.—*Kuhl. Consp. Psitt. Nov. Acta, &c.*, p. 43, No. 64.—Psittacus terrestris, *Shaw's Zool. of New Holland*, pl. 3.—*Nat. Misc.* 228.—Perruche Ingambe, *Le Vaill. Nat. des Per.* pl. 32.—Ground Parrot, *Lath. Gen. Hist.* ii. p. 137, No. 40.

THOUGH destitute of that diversity of brilliant colours which distinguishes so many of the tribe, the plumage of the Ground Parrot is handsome and pleasing to the eye, the lively green which forms the ground or prevailing tint being beautifully varied with spots, and bars of black and yellow In size it exceeds the last described species, measuring rather more than twelve inches in length, one half of which is occupied by the tail, this is composed of feathers, which taper rapidly towards their tips, which are sharp and pointed, and have their exterior webs very narrow, the two middle tail feathers are green, barred with yellow, the lateral yellow, barred with blackish

brown. The wings are rather short and rounded, the first and fourth quills being equal, the second and third the longest and equal. The inner webs of the quills are blackish-brown, and have each a mesial angular spot of yellow, forming an oblique fascia or bar on the under side of the wings; the exterior webs are green, with an angular spot of yellow towards the middle, upon all the quills, with the exception of the two first. At the base of the upper mandible is a narrow band of reddish-orange. The bill is grey, the tomia of the upper mandible paler, and without emargination. The feet are yellowish-white, the tarsi nearly an inch long, covered in front with hexagonal scales. The toes slender and long, the claws nearly straight, with pale tips.

The Ground Parrot is a native of Holland and Van Diemen's Land, where it inhabits the scrubs or ground partially covered with low underwood. It is very rarely seen perched, and when flushed, Mr Caley observes, takes a short flight, and then alights among the bushes, but never upon them. Of its mode of nidification, and other matters connected with its history, we are unable to give any further account.

The last group our limits permit us to mention, from its characters, which in many respects approach near to those of Pezoporus, seems naturally to be included in this division. Its members are distinguished by a crest, in one species consisting of two slender

feathers, in the other of six, and similar in form to that of the Common Lapwing. The bill, in shape and proportion, seems almost intermediate between that of Platycercus and Pezoporus, the tarsi are elevated, the toes slender, with claws slightly falcate. Like most of the Platycercinæ, they are much upon the ground, where they move with freedom, and feed upon grass-seeds, maize, and other corn. In Wagler's Monographia Psittacorum, they form his fourth genus *Nymphicus*, which title we adopt, as having been imposed prior to that of *Leptolophus*, by which it is characterized in Mr Swainson's Illustrations. Our figure represents the

RED-CHEEKED NYMPHICUS.

Nymphicus Novæ Hollandiæ.—WAGLER.

PLATE XXX.

Nymphicus Novæ Hollandiæ, *Wag. Mon. Psitt. in Abhand.*, *&c.*, p. 490 and 522.—Psitticus Novæ Hollandiæ, *Latham, Ind. Orn.* i. 102, sp. 89.—Leptolophus auricomis, *Swainson's* 2d *Ser. Illus.*—Crested Parakeet, *Lath. Syn.* i. p. 250, 51.—Calopsitta Guy, *Less. Ill. Zool.* vol. iii. 2 sp. pl. 112. Female.

THOUGH clothed in plain and unassuming plumage, as compared with many of its brilliant-coloured associates, the subject of our plate is not without its attractions, its elegant crest contributing to increase the beauty of its contour, which in other respects is equal to that of any species we have previously described. Its habits are said to resemble those of the other Platycercinæ, with which its structure also accords, the elongation of the tarsi and toes giving it the same freedom of action upon the ground, where it usually seeks and obtains its food. It does not appear to be a numerous species, as few specimens have yet found their way into our museums, and no detailed account of its natural history have hitherto been recorded. It is a native of New Holland, but

NYMPHICUS NOVÆ HOLLANDLÆ.

Red-Cheeked Nymphicus.

E.Lear del.

Lizars sc.

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of what particular district we are ignorant. It is likely that this bird and its congeners will constitute the rasorial type of this subfamily. In the lengthened tail feathers of this genus an analogy or distant affinity to the Ring Parrakeets, with which the illustrations commenced, may be traced.

(To be placed at the end of the PARROT *Volume.)*

BIOGRAPHICAL MEMOIR OF DAUBENTON.

BY

BARON CUVIER.

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LOUIS-JEAN-MARIE DAUBENTON, Member of the Senate and of the Institute, Professor of Natural History to the Museum and the College of France, Member of the Academies and Scientific Societies of Berlin, Petersburg, London, Florence, Lausanne, Philadelphia, &c., formerly Stipendiary Anatomist to the Academy of Sciences, Curator and Demonstrator to the Cabinet of Natural History, was born at Montbar, in the department of Côte d'Or, on the 29th May, 1716, of Jean Daubenton, notary in that place, and Marie Pichenot.

He was distinguished from his infancy for the gentleness of his manners; and he obtained from the Jesuits of Dijon, where he first studied, all those little distinctions so flattering to youth, without being always the presages of more lasting success. These he remembered with pleasure to the close of his life, and always preserved the written testimonials.

After having completed, under the Dominicans of that same town, what was then called a course of philosophy, his parents, who intended him for the church, and made him assume the ecclesiastical dress at twelve years of age, sent him to Paris to be initiated in theology; but, inspired perhaps by a presentiment of what he would one day become, young Daubenton secretly devoted himself to the study of medicine. At the schools of the faculty he attended the prelections of Baron, Martineux, and Col de Villars; and, in the same Jardin des Plantes which he was afterwards so largely to benefit, those of Winslow, Hunauld, and Antoine de Jussieu. The death of his father, which happened in 1736, having left him at liberty to follow the bent of his inclinations, he took his degrees at Rheims in 1740 and 1741, and then returned to his native place, where he limited his ambition to the exercise of his profession. But destiny reserved him for a more brilliant theatre.

The little town where he first saw the light, had likewise produced an individual of independent fortune, whose bodily and mental qualifications, and ardent taste for pleasures, seemed to destine him for any other career than that of the sciences, yet who found himself attracted to them by an irresistible inclination, which is almost a certain indication of extraordinary talents.

Buffon (for it was that individual), for a long time uncertain to what object he should apply his genius, tried, in turns, geometry, physics, and agriculture. At last, Dufay, his friend, who was called upon, during his

brief administration, to rescue the Jardin des Plantes from the state of disorder into which it had been allowed to fall by the carelessness of former curators, hitherto born to the office of superintendents of this establishment, having intrusted him with this duty, Buffon's choice became fixed for ever on Natural History, and he saw opening before him that extensive career which he ran with such wide-spread reputation.

From the very first he formed an estimate of the whole extent of it. He perceived at one glance what was requisite to be done, what he had it in his power to do, and what he required from the assistance of others.

Overloaded, from its birth, by the indigested erudition of the Aldrovands, Gesners, and Johnstons, natural history appeared, so to speak, mutilated by the scissors of nomenclators—the Rays, Kleins, and even Linnæus himself, presented us with nothing but naked catalogues, written in a barbarous language, and which, with their apparent precision, and the care their authors seemed to have taken to include in them nothing but what could at any time be verified by observation, contained nevertheless a multitude of errors, both in the details, in the distinctive characters, and in the systematical arrangements.

To restore life and motion to this cold and inanimate body; to paint Nature as she really is, always young and always in action; to sketch with a comprehensive pencil the admirable agreement of all her parts, the laws

by which they are restrained and kept in a uniform system; to transfuse into this picture all the freshness and splendour of the original:—such was the most difficult task that author had to undertake who would restore this beautiful science to the lustre it had lost; such was that in which the ardent imagination of Buffon, his elevated genius, and deep feeling for the beauties of nature, ought to have enabled him to undertake with perfect success.

But if truth had not been the foundation of his undertaking; if he had lavished the brilliant colours of his palette on incorrect or unfaithful drawings, and had combined only imaginary facts, he might indeed have appeared as an elegant writer or ingenious poet, but he would not have been a naturalist, and he could not have aspired to the object at which his ambition aimed, that of being a reformer in science.

It was necessary, therefore, that every thing should be reviewed, collected, and observed; it was necessary to compare the forms and dimensions of beings; to carry the scalpel into their interior, and disclose the most secret parts of their organization. Buffon felt that his impatient mind would not allow him to engage in such toilsome labours; and that, moreover, the weakness of his eye-sight would deprive him of the hope of engaging in them with success. He sought for an individual, who, joined to the correctness of judgment and delicacy of tact, necessary for such researches, had enough of modesty and devotion to the subject, to be satisfied with a part

of the duty apparently secondary; to be in some degree as an eye and a hand to him; and he found such an individual in the companion of his youthful sports, Daubenton.

He indeed found in him more than he sought for, more even than he thought necessary for his purpose; and it is not perhaps in the department in which he asked for his assistance, that Daubenton was most useful to him.

In fact, it may be affirmed, that there never was a connection more appropriate. Both in regard to physical and moral qualifications, there existed between the two friends that perfect contrast which one of our most amiable writers assures us is necessary to render a union lasting; and each of them seemed to have received precisely those qualities fitted to temper those of the other by their opposition.

Buffon, of a vigorous frame and imposing appearance, of an imperious disposition, and ardent in all he undertook, seemed to have divined the truth and not to have observed it. His imagination continually placed itself between nature and himself, and his eloquence seemed to exercise itself against his reason, before having endeavoured to sway that of others.

Daubenton, of a frail temperament and mild look, and a moderation which he owed to Nature as much as to his own wisdom, conducted his researches with the most scrupulous circumspection. He believed nothing, he affirmed nothing, but what he had seen and touched.

Far from wishing to persuade by other means than the evidence itself, he carefully excluded from his discourses and writings every image and expression calculated to seduce. Of unwearied patience, he never allowed himself to be discouraged by delay; he recommenced the same task till he had succeeded to his mind; and, by a method perhaps too rare among men occupied with science of observation, all the resources of his mind seemed to be united in imposing silence on his imagination.

Buffon supposed that he had merely obtained a laborious assistant, who would smooth for him the inequalities of his path; and he had found a faithful guide, who pointed out to him the dangers and precipices. A hundred times, the arch smile which escaped from his friend, when he entertained some doubt, caused him to revert to his first ideas; a hundred times, one of the words which that friend knew so well how to throw in, arrested him in his precipitate progress; and the sagacity of the one becoming thus allied to the strength of the other, tended to give to the history of quadrupeds, the only one that was common to the two authors, the perfection which renders it, if not the most interesting of those which enter into Buffon's great Natural History, at least that which is freest from errors, and which will be longest regarded as classical by naturalists.

It is, therefore, even less by what he did for him, than by what he prevented him doing, that Daubenton

was useful to Buffon, and that the latter ought to have been so thankful for having formed the connection.

It was about the year 1742 that Buffon took him to Paris. The situation of Curator and Demonstrator in the Cabinet of Natural History was almost a sinecure; the individual who possessed the title, named Moguez, having lived for a long time in the country; and the duties, such as they were, were fulfilled from time to time by some one attached to the Garden. Buffon caused this office to be revived for Daubenton, and it was conferred on him by brevet in 1745. The emoluments, which at first did not exceed 500 francs, were gradually increased to 4000 francs. When he became connected with the Academy of Sciences, Buffon, who was treasurer, made him several gratuities. From the time of his arrival in Paris, he likewise provided him with a place of residence. In a word, he neglected nothing to provide for him that ease which is necessary for every man of letters, and every one who wishes to occupy himself with nothing but science.

Daubenton, on his part, devoted himself, without interruption, to investigations fitted to second the views of his benefactor, and he erected, by means of these labours, the two principal monuments of his own glory.

One of the two, although not a printed book, is a book not less beautiful than instructive, since it is almost that of Nature; I speak of the Cabinet of Natural History in the Jardin des Plantes. Before Daubenton's

time, this was nothing else than a mere druggist s shop, where the products of the public courses of chemistry were collected, in order that they might be distributed to the sick poor. In natural history, properly so called, it contained only a few shells collected by Tournefort, which had served to amuse the early years of Louis XV., many of them still bearing marks of the royal infant's caprice.

In a very few years he changed the entire face of it. Minerals, fruits, woods, and shells, were collected from every quarter, and exposed in the most beautiful order. Every thing was done to discover, or to bring to perfection, the means by which the different parts of organised bodies might be preserved; the lifeless skins of quadrupeds and birds reassumed the appearances of life, and presented to the observer the smallest details of their characters, at the same time that they astonished the curious by the variety of their forms, and the brilliancy of their colours.

Formerly, a few wealthy individuals ornamented their cabinets with the productions of Nature; but they excluded from them such as might impair their beauty, or deprive them of the appearance of decoration. Some savants had collected the objects which might assist their researches, or support their opinions; but limited in their fortunes, they were obliged to work for a long time before completing even an insulated department. A few curious individuals had assembled a series of objects which satisfied their tastes; but they usually

contented themselves with things of the most trifling nature, more fitted to please the eye than to enlighten the mind. The most brilliant shells, the most varied pebbles, the best cut and most brilliant gems, usually formed the main body of their collections.

Daubenton, aided by Buffon, and profiting by the means which the credit of his friend obtained for him from the Government, conceived and executed a more extensive plan. He thought that none of the productions of Nature should be excluded from her temple. He conceived, that such of these productions as we regard as the most important, cannot be well known but by comparing them with all others; that there are none of them, which, by their numerous relations, are not connected more or less directly with the rest of Nature. He therefore excluded none, and made the greatest efforts to collect all. He executed, in particular, that great number of anatomical preparations which for a long time distinguished the Cabinet of Paris, and which, though less agreeable to the vulgar eye, are most useful to the man who will not limit his researches to the surface of created beings, and who endeavours to render natural history a philosophical science, by making it explain the phenomena it describes.

The study and arrangement of these treasures had become in him a true passion, the only one, perhaps, that was ever remarked in him. He shut himself up, for entire days, in the Cabinet. He reviewed, in a thousand ways, the objects he had assembled there; he

scrupulously examined all their parts; he tried all possible orders, until he fell upon that which neither offended the eye nor did violence to the natural relations.

This taste for the arrangement of a cabinet showed itself very strongly in his latter years, when victories brought to the Museum of Natural History a new mass of riches, and when circumstances admitted of giving a greater development to the whole. At eighty-four years of age, his head sunk upon his breast, his feet and hands disfigured by gout, not able to walk unless supported by two people, he caused himself to be led every morning to the cabinet, in order to preside over the arrangement of the minerals, the only part which remained in his hands in the new organization of the establishment.

Thus, it is principally to Daubenton that France is indebted for that temple, so worthy of the goddess to whom it is dedicated; and in which we know not what to admire most, the astonishing fecundity of Nature, which produced so many living beings, or the indefatigable patience of the individual who could collect all these beings, name them, classify them, point out their relations, describe their parts, and explain their properties.

The second monument Daubenton left behind him ought to have been, according to his primitive plan, the result and complete description of this cabinet; but circumstances to which we shall soon refer, prevented him carrying his description further than the quadrupeds.

This is not the place to analyze the descriptive part of the *Natural History*,* a work as immense in its details as it is astonishing from the boldness of its plan, nor to point out all that it contains new and important for naturalists. It will be sufficient to give an idea of it, to mention, that it contains the description, exterior as well as interior, of a hundred and eighty-two species of quadrupeds, fifty-two of which had never before been dissected, and thirteen of which had not even been described externally. It also contains the description, exterior only, of twenty-six species, five of which were not known. The number of species entirely new is therefore eighteen; but the new facts, relating to such as were already known more or less superficially, are innumerable. The greatest merit of the work, however, is the order and spirit in which these descriptions are drawn up, and which is the same in regard to all the species. The author is pleased to repeat, that he was the first who had established a comparative anatomy; and that was true in this sense, that all his observations were arranged on the same plan, and their number being the same for the smallest animal and the largest, it is extremely easy to seize all the relations; not being confined to any system, he has bestowed equal attention on all the facts; and he never could be tempted to neglect or disguise what

* The three first volumes in 4to appeared in 1749; the twelve following succeeded each other from that period up to 1767.

did not appear to conform to the laws which he had established.

However natural this method may appear to those who judge of it simply by good sense, it may easily happen that it cannot be readily followed, since it is so rare in the works of other naturalists, and because there are so few of them, for example, who have taken the trouble of affording us the means of placing the beings they describe, otherwise than they are in their own systems.

Accordingly, this work of Daubenton's may be considered as a rich mine, in which naturalists and anatomists occupied with quadrupeds are obliged to labour, and from which many writers have derived their most valuable materials, without any acknowledgment. It is sometimes enough to make a table of these observations, and to place them in certain columns, in order to obtain the most striking results; and it is thus that we must understand the expression of Camper, *That Daubenton did not know all the discoveries of which he was the author.*

He has been blamed for not having himself drawn the picture of these results. It was with a full knowledge, of course, that he declined a work which would have flattered his self-love, but which might have led him into errors. Nature had shown him too many exceptions, to enable him to believe that he could establish a rule; and his prudence was justified, not only by the bad succès of those who were bolder than him-

self, but also by his own example; the only rule he had ventured to establish, that of the number of cervical vertebræ in quadrupeds, having been disproved towards the close of his life.*

He has also been blamed for having restricted his anatomical investigations, limiting them to the description of the skeleton and viscera, without treating of the muscles, vessels, nerves, and exterior organs of the senses: but it cannot be proved that it was possible for him to avoid this accusation, until we have done better than he, in the same time, and with the same means. It is certain at least, that one of his pupils, who wished to supply these defects, has, for the most part, given us nothing but compilations, too often insignificant.

Accordingly, as soon as his great work appeared, Daubenton did not fail to obtain the usual recompense of all great undertakings; glory and honour; criticism and irritability; for, in the career of the sciences, as in all others, it is less difficult to attain to glory and even fortune, than to preserve tranquillity when one has attained to them.

Reaumer at that time held the sceptre of Natural History. No one had shown greater sagacity in observation, no one had rendered Nature more interesting by the wisdom and species of foresight of details, the proofs of which he had found in the history of the smallest animals. His memoirs on insects, although diffuse,

* There are, in general, seven: the Three Fingered Sloths, or the animals named Aï, have nine.

were clear, elegant, and full of that interest which arises from the curiosity being continually kept on the stretch by new and singular details. They had begun to diffuse among people of the world a taste for the study of Nature.

It was not without some feeling of dissatisfaction that Reaumer saw himself eclipsed by a rival, whose bold views and magnificent style, excited the enthusiasm of the public, and inspired them with a kind of contempt for researches in appearance so minute as those which have insects for their object. He showed his bad humour in a somewhat sharp manner. He is supposed even to have contributed to the publication of some critical letters, in which the discussions of an obscure metaphysician are opposed to the eloquence of the painter of Nature, and in which Daubenton, in whom Reaumur believed he saw the only solid support of what he called the prestiges of his rival, was by no means spared. The Academy sometimes witnessed more direct quarrels, the recollection of which has not altogether reached us, but which were so strong, that Buffon was obliged to employ his influence with the favourite of the day,* to support his friend, and enable him to reach those higher degrees which were due to his works.

There is no celebrated man who has not experienced such disagreeable occurrences; for, under every possible combination of circumstances, there is never a

* Madame de Pompadour.

man of merit without some adversaries; and those who wish to do injury never fail to find some willing to protect them.

Merit was so much the more fortunate in not giving way on this occasion, that it was not of a nature to strike the multitude. A modest and scrupulous observer could neither captivate the vulgar, nor even philosophers who were unacquainted with natural history; for philosophers always judge of works which do not belong to their department like the vulgar, and the number of naturalists was then very small. If Daubenton's work had appeared alone, it would have remained in the hands of anatomists and naturalists, who would have appreciated it at its just value; and their suffrages determining that of the multitude, the latter would have respected the author on their word, just as unknown gods are the more revered the more impenetrable their sanctuary. But, appearing by the side of the work of his brilliant rival, that of Daubenton was taken into the toilette of ladies and the cabinet of literary men; the comparison of his measured style and circumspect progress, with the lively poetry and bold flights of his rival, could not be to his advantage; and the minute details of dimensions and descriptions into which he entered, could not remove from such judges the ennui with which they were necessarily accompanied.

Thus, when all the naturalists of Europe received, with mingled gratitude and admiration, the results of the immense labours of Daubenton; when they gave to

the work that contained them, and for the sole reason that it did contain them, the names of *work of gold*, a *work truly classical;* they regarded with indifference the author at Paris: and some of those flatterers, who creep before renown as before power, because renown is likewise power, succeeded in making Buffon believe, that he would gain by getting rid of his importunate fellow labourer. We have even heard since the secretary of an illustrious academy assert, that naturalists alone might regret, if he had followed this advice!

Buffon therefore caused an edition of the Natural History to be prepared, in thirteen volumes 12to., from which not only the anatomical part was excluded, but also the description of the exterior of animals, which Daubenton had drawn up for the large edition; and as nothing was substituted, it followed that this work gives no idea of the form, nor colour, nor distinctive characters of animals; so that if this small edition had alone resisted the prejudices of the times, as the multitude of impressions now published would lead us to believe, we would no longer find much better means of recognising the animals of which the author speaks, than are to be found in Pliny and Aristotle, who have likewise neglected the detail of descriptions.

Buffon determined to appear alone in what he afterwards published, both on birds and minerals. Besides the affront, Daubenton thereby suffered a considerable loss. He might have remonstrated; for this undertaking on natural history had been concerted in

common; but, by so doing, he must have quarrelled with the superintendent of the Jardin du Roi, and must have left the cabinet he had created, and to which he clung as to life. He forgot the affront and the loss, and continued to work as before.

The regret which every naturalist manifested, when they saw the commencement of the *History of Birds* appear, without being accompanied with those exact descriptions, and careful anatomical details, which they prized so highly, must have tended to console him.

He would have had still more reason to be so, if his attachment for the great man who neglected him had not prevailed over his self love, when he saw those first volumes, to which Gueneau of Montbeillard contributed nothing, filled with inaccuracies, and destitute of all those details which it was physically and morally impossible that Buffon could furnish.

These imperfections were still more marked in the Supplements, works of Buffon's old age, in which this great writer carries his injustice so far as to devolve on a mere painter the part which Daubenton had so well executed in the first volumes.

Many naturalists, accordingly, endeavoured to supply this want; and the celebrated Pallas, among others, absolutely took Daubenton for his model in his *Miscellanea* and *Spicilegia Zoologica*, as well as in his *Histoire dès Rongeurs*, works which ought to be considered as real supplements to Buffon, and as the best which appeared on quadrupeds after his great work.

Every one knows with what success the illustrious continuator of Buffon in the department of fishes and reptiles—who was likewise the friend and colleague of Daubenton, and who still laments him along with ourselves—has united in his writings the double advantage of an ornate style, full of imagery, and a scrupulous accuracy in the details, and how he has equally well replaced both his predecessors.

Daubenton so far forgot the little acts of injustice on the part of his old friend, that he afterwards contributed to many parts of the *Natural History*, although his name never appeared in connection with it; and we possess proof, that Buffon consulted the manuscript of all his prelections in the College of France, when he wrote his History of Minerals. Their intimacy was even entirely re-established, and continued to the death of Buffon.

During the eighteen years in which the early 4to volumes of the *History of Quadrupeds* were published, Daubenton could give only a small number of memoirs to the Academy of Sciences; but he made up for this afterwards; and a great number from his pen exist, both in the collection of the Academy, and in those of the Societies of Medicine, Agriculture, and the National Institute. All of them, as well as the works he published separately, contain some interesting facts or some new views.

To give the names of them alone would exceed the limits of an eloge; and we shall content ourselves by

indicating, summarily, the principal discoveries with which he enriched certain branches of human knowledge.

In Zoology, Daubenton has discovered five species of Bats and one of *Sorex*, which had escaped the observation of preceding naturalists, although all of them pretty common in France.

He has given a complete description of the species of Deer which produces musk, and made some curious remarks on its organization.

He has described a singular conformation in the vocal organs of some foreign birds.

He is the first who applied the knowledge of comparative anatomy to the determination of species of quadrupeds whose remains have been found in a fossil state; and although he has not been always fortunate in his conjectures, he has, nevertheless, opened an important career for the history of the revolutions of the globe; he has destroyed for ever those ridiculous notions about giants, which were renewed every time the bones of any large animal happened to be disinterred.*

The most remarkable instance of his discrimination in this way, was the determination of a bone, which was preserved at Garde-meuble, as the bone of a giant's leg. He perceived, by means of comparative anatomy, that this was the bone of a Giraffe, although he had never seen that animal, and no figure of its skeleton

* His papers on the various subjects referred to, will be found in the *Memoires de l'Academie des Sciences.*

existed. He had the pleasure of verifying this conjecture, when, thirty years after, the Museum obtained the skeleton of the giraffe which is now preserved there.

Before his time, very vague ideas prevailed on the differences between Man and the Orang-outang. Some regarded the latter as a wild man; others alleged that it was man degenerated, and that it is his nature to go on four feet. Daubenton proved, by an ingenuous and decisive observation on the articulation of the head, that Man could never walk otherwise than on two feet, nor the Orang-outang otherwise than on four.

In vegetable physiology, he was the first who called attention to the fact, that all trees do not increase by exterior and concentric layers. The trunk of a palm, which he examined, showed none of these layers; roused by this observation, he perceived, that the increase of this tree takes place by the prolongation of the fibres from the centre, which develop themselves in leaves. He explained by this, why the trunk of a palm does not grow thicker as it increases in age, and why it is of the same size throughout its whole length; but he did not push his researches further. M. Desfontaines, who had observed the same thing a long while before, has exhausted this matter, so to speak, by proving, that these two modes of growth distinguish trees whose seeds have two cotyledons, and such as have only one; and establishing on this important discovery a fundamental division in Botany.

Daubenton was likewise the first who had perceived in the bark the trachea, or shining elastic vessels, often filled with air, which others had discovered in the wood.

Mineralogy has made such rapid progress of late years, that the labours of Daubenton in this department of Natural History are almost now eclipsed, and there only remains for him the reputation of having given to the science the individual who advanced it further. It is he who was the master of Haüy. He published, however, some ingenious notions respecting the formation of alabasters and stalactites, on the causes of herborization on stones and figured marbles; and descriptions of minerals little known at the time when he noticed them. It is true, that his arrangement of precious stones is not conformable to their real nature; but he at least renders the nomenclature of their colours more precise.

We find, more or less, in all these works of Daubenton on physical subjects, that kind of talent which was peculiar to him, a patience which would not fail to try to divine Nature, because it never despaired of forcing Nature to explain herself, by means of repeated interrogations, and that skilful sagacity in seizing the slightest signs that might indicate a response.

We perceive, in his works on agriculture, another quality besides; namely, anxiety for public usefulness. What he did for the improvement of our wools deserves for ever the gratitude of the state, to which he opened up a new source of prosperity.

He begun his experiments on this subject in 1766, and continued them till his death. Favoured from the first by Trudaine, he received encouragement from all the ministers who succeeded that enlightened and patriotic individual, and he responded to it in a manner worthy of himself.

To show, in the clearest manner, the advantage of always keeping sheep in parks; to demonstrate the pernicious consequences of the practice of closing up sheep in houses during the winter; to try various means of improving the race; to find means of determining, with precision, the degree of fineness in the wool; to become acquainted with the true mechanism of rumination, and to deduce from thence useful conclusions respecting the constitution of wool-bearing animals, and the modes of feeding and managing them; to spread the produce of his stock throughout the provinces; to distribute his rams among all the proprietors of flocks; to weave cloths with these wools, in order to show their superiority; to rear intelligent shepherds to propagate the practice of his method; to draw up instructions level to the capacity of all classes of agriculturists. Such is a rapid summary of Daubenton's labours on this important subject.

Almost at every public sitting of the Academy he gave an account of his researches, and often obtained more applause from the gratitude of his assistants, than his associates received for the most difficult discoveries, but whose utility was less obvious.

His success has since been surpassed. The entire flocks, brought by Government from Spain at the request of M. Tessier, as well as those brought by M. Gilbert, have spread a fine race over the country, with much greater rapidity than Daubenton could do by means of his rams alone; but he, nevertheless, led the way, and did all that was possible with the means he possessed.

He acquired, by these means, a kind of popular reputation, which was very useful to him in a dangerous crisis. In 1793, an epoch fortunately already remote from us, when, by an overturn of ideas which will be long memorable in history, the most ignorant portion of the people had to pronounce on the fate of the most intelligent and nobly born, Daubenton, now an octogenarian, in order to retain the situation he had honoured by his talents and virtues for fifty-two years, required to ask from an assembly, which assumed the name of the section *Sans-culottes*, a paper of which the extraordinary name was *Certificat de Civisme*. A professor or academician would have obtained it with difficulty. Some sensible people, mixed with the infuriated rabble in the hope of restraining their excesses, presented him under the title of *Shepherd*; and it was the Shepherd Daubenton who obtained the certificate necessary for the Director of the Museum of Natural History. This paper still exists. It is a document, calculated to throw light not only on the life of Daubenton, but on the history of this dismal period.

These numerous labours would have exhausted a bustling activity, but they were insufficient for the peaceable love of a regulated occupation, which formed part of Daubenton's character.

It had been for a long time a subject of regret, that in France there were no public lectures on Natural History. He managed, in 1773, that one of the chairs of Practical Medicine, in the College of France, should be changed into a chair of Natural History, and undertook, in 1775, to fill it. The intendant of Paris, Berthier, engaged him, in 1783, to give lectures on Rural Economy in the Veterinary School of Alford, at the same time that Vicq. d'Azyr gave lectures on Comparative Anatomy and Fourcroy on Chemistry.

He likewise desired to give lectures in the cabinet of Paris, where the objects themselves would have spoken even more distinctly than the professor; and not having been able to accomplish this under the old regime, he united with the other individuals of the Jardin des Plantes, in requesting the Convention to convert this establishment into a special school of Natural History.

Daubenton was nominated Professor of Mineralogy in this establishment, and he fulfilled the duties of that office till his death, with the same care that he bestowed on every thing he undertook.

It was indeed an affecting sight to observe the old man, surrounded by his pupils, who listened with religious attention to his words, which, in their estimation, were like the responses of an oracle; to hear his feeble

and tremulous voice become reanimated, and acquire strength and energy, when he wished to impress on their minds some of those great principles which are the result of the meditations of genius, or when he was merely explaining to them some useful truths.

He had not more pleasure in speaking to them than in listening to what they said. He lent a ready ear to all their questions, which afforded him the greatest pleasure. He forgot his years and weakness whenever he thought he could be useful to the youth around him, and when he had any duty to perform.

One of his colleagues having offered, when he was appointed a senator, to assist him in teaching: "My friend," he replied, "no one could fill my place better than you: when age shall force me to give up my labours, be assured that I will devolve them on you." He was then eighty-three years of age.

Nothing can afford a better proof of his zeal for study, than the pains he took to keep pace with the progress of science, and to avoid imitating those professors, who, when once settled in a place, merely repeat the same thing every year. At eighty years of age, he has been heard explaining the discoveries of one of his old pupils, M. Haüy; forcing himself to understand them, that he might give an account of them to the youth whom he taught. This example is so rare among philosophers, that it may perhaps be considered one of the most beautiful traits in Daubenton's character.

During the ephemeral existence of the Normal School

he delivered some lectures there. He was received with the most lively enthusiasm every time he appeared; every time his numerous auditory recognised in his expressions the sentiments with which they were animated, and which they were delighted to see they shared with this venerable old man.

This is the place to speak of some of his works, which are not so much intended to explain his discoveries, as to teach systematically some body of doctrine; such are his articles for the two Encyclopædias, particularly the Encyclopedie Methodique, for which he drew up dictionaries of quadrupeds, reptiles, and fishes; his mineralogical table, and lectures in the normal school. He has left the complete manuscript of those of the Veterinary School, of the College of France, and of the Museum. It is to be hoped that the public will not be deprived of them.

These didactic writings are remarkable for their great clearness, sound principles, and a scrupulous attention to avoid every thing that is doubtful; only we are surprised to see, that the same individual who declaimed with such vigour against any kind of method in natural history, should have finished by adopting methods which are neither better, nor perhaps so good as those he found fault with, as if he had been destined to prove, by his example, how far his earliest prepossessions were contrary to the nature of things and of man.

Finally, besides all these works and lectures, Daubenton had a share in editing the *Journal des Savans;*

and, in his latter years, at the request of the Committee of Public Instruction, he had undertaken to compose Elements of Natural History for the use of the Primary Schools; but these elements were not completed.

We are naturally led to inquire, how it happened, that one of frail temperament, and with so many laborious occupations, could reach so advanced an age without any painful infirmities. This was owing to a careful study of himself, and an attention calculated equally to avoid excesses of body, heart, and intellect. His regimen, without being austere, was very uniform; he always lived in easy circumstances, esteeming fortune and grandeur at their real value, and having little desire for them. He had, in particular, the strength of mind to avoid the danger to which almost all literary characters are exposed, an inordinate passion for reputation. His researches were an amusement to him rather than a labour. A portion of his time was employed in reading, with his wife, romances, stories, and other light works; the most frivolous works of the day were read by him. This he called "putting his mind *a la diète*."

There can be no doubt, that this uniformity of regimen, and constancy of health, contributed much to that kindliness of disposition which rendered his society so agreeable; but another feature of his character, which contributed not less to this, and which struck all who came near him, was the good opinion he appeared to have of mankind.

It seemed naturally to arise from this, that he had seen little of them; and being exclusively occupied with the contemplation of Nature, he never took any share in the proceedings of the active part of society. But it sometimes went to an astonishing length. Although of such delicate tact in detecting error, he never seemed to suspect a falsehood; he always manifested new surprise when intrigue or interest, concealed under a fair exterior, was exposed to him. Whether this ignorance was natural to him, or he had voluntarily disregarded the knowledge of mankind, in order to spare himself the annoyance endured by those who know them best, it did not fail to throw over his conversation an air of charity and good nature, the more to be admired, as it contrasted so strongly with the spirit of keen discrimination he displayed in all matters of pure reasoning. It was impossible, accordingly, to have intercourse with him without loving him; and never did any man receive more numerous proofs of affection or respect from others, at all periods of his life, and under all successive governments.

He has been blamed for having received honours unworthy of him, and odious from the very names of those who offered them; but this was a consequence of the system, with which he judged even statesmen, which led him never to suppose their motives to be different from what they expressed; a dangerous method, no doubt, but which, perhaps, we have too much abandoned in the present day.

Another disposition of his mind, and which has further contributed to these imputations of pusillanimity or egotism which have been made against him even in printed works, which however does not justify them the more, was his entire obedience to the law, not as being just, but simply as the law. This submission to human laws was absolutely of the same description as that which he had for the laws of nature: it no more permitted him to murmur against those which deprived him of fortune, or the reasonable use of his liberty, than against those which disfigured his limbs with gout. Some one has said of him, that he looked upon the swellings of his fingers with the same *sang-froid* as he would have done the knots on a tree; and this was literally true. It was equally true of the indifference with which he would have given up his situation and fortune, and gone into distant exile, had tyrants required it of him.

Besides, even although the maintenance of his tranquillity may have been the motive of some of his actions, does not the use which he made of that tranquillity absolve him from blame? And the man who extracted so many secrets from Nature, and laid the foundations of a science almost new; who has given to his country an entire branch of industry; who has reared one of the most important monuments in science, and formed so many enlightened pupils, many of whom now occupy the first places among the philosophers of the day, Does such a man now require to be justified for having

managed to accomplish the means of doing all this good to his country and to humanity?

The universal acclamations of his fellow-citizens answer for me against such accusations. The last and most solemn marks of their esteem have terminated a most useful career in a manner most glorious; perhaps we have even to regret that they shortened its course.

Having been nominated a member of the conservative senate, he was desirous to fulfil his new duties as he had discharged those of his whole life. He was obliged to make some change in his regimen. The season was very severe. The first time he attended a meeting of the body who elected him, he was struck with apoplexy, and fell senseless into the arms of his alarmed colleagues. The most prompt assistance could restore consciousness only for a few minutes, during which he appeared, as he always had been, the tranquil observer of Nature. He continued to touch with his fingers, which were not deprived of sensation, the different parts of his body, indicating to his attendants the progress of the paralysis. He died on the 31st December, 1799, at the age of eighty-four, without suffering; so that we may say, that he attained a happiness, if not attended with the most brilliant accompaniments, at least more perfect and free from mixture than we can reasonably expect here.

His funeral was such as became one of our first magistrates, one of our most illustrious philosophers, and one of our most respectable citizens. People of all

ranks and ages rendered to his ashes the testimony of their veneration. His remains were deposited in the Garden he had embellished, and which his virtues had honoured for sixty years; and his tomb, according to the expression of an individual who does equal honour to the sciences and the senate, will render it an elysium, by adding the charms of sentiment to the beauties of Nature. Two of his colleagues have been the eloquent interpreters of the sorrow of all who knew him. Pardon me, if these painful feelings affect me at this moment, when I ought to be only the interpreter of the public gratitude, and if they carry me away from the ordinary tone of an academical eloge; pardon him, I say, whom he honoured with his kindness, and whose master and benefactor he was.

Madame Daubenton, whose agreeable works have made her name known in literature, and with whom he passed fifty years in happy union, brought him no children.

His place in the Institute was filled by M. Pinel; in the Museum of Natural History by M. Haüy; and I had the happiness to be chosen as his successor in the College of France.

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